

RAILWAY AGE

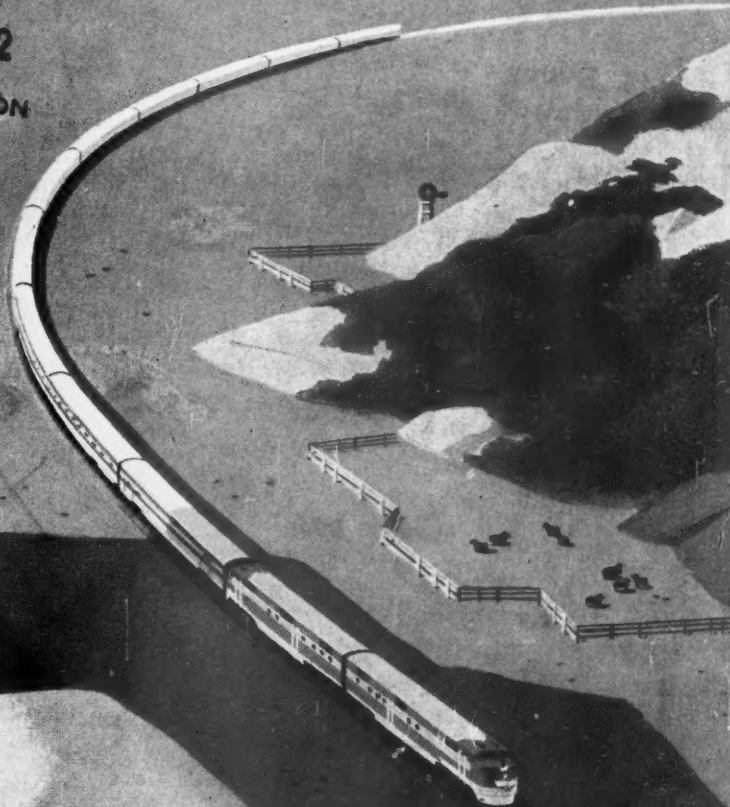
THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

FREIGHT TRAFFIC ISSUE

JANUARY 7, 1952

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January 1, 1952

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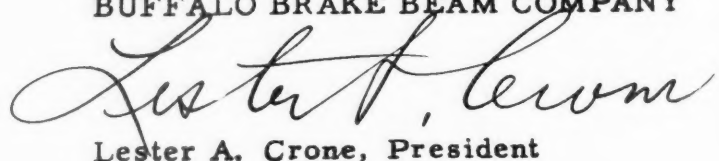
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For what more can anyone ask?

Sincerely yours,

BUFFALO BRAKE BEAM COMPANY



Lester A. Crone, President

LAC:IS

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.



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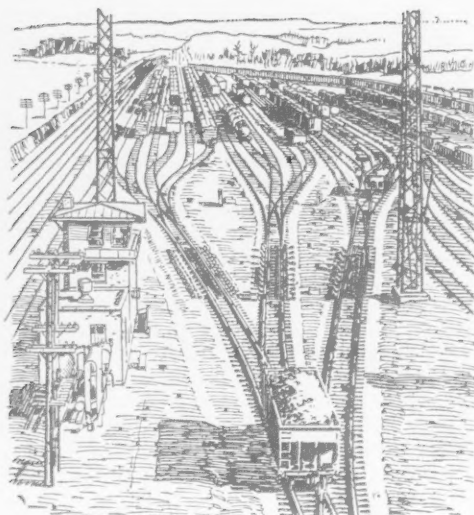
SWISSVALE  PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, ten months	
1951	\$ 8,584,113,380
1950	7,683,079,585
Operating expenses, ten months	
1951	6,719,696,853
1950	5,795,212,937
Taxes, ten months	
1951	982,295,028
1950	922,105,384
Net railway operating income, ten months	
1951	712,734,472
1950	815,072,304
Net income, estimated ten months	
1951	476,000,000
1950	577,000,000
Average price railroad stocks	
January 2, 1952	54.39
January 2, 1951	56.07
Car loadings, revenue freight	
51 weeks, 1951	39,995,430
51 weeks, 1950	39,300,234
Average daily freight car surplus	
December 15, 1951	6,969
December 16, 1950	6,182
Average daily freight car shortage	
December 15, 1951	3,793
December 16, 1950	14,433
Freight cars delivered	
November 1951	9,824
November 1950	5,791
Freight cars on order	
December 1, 1951	129,158
December 1, 1950	126,870
Freight cars held for repairs	
December 1, 1951	88,911
December 1, 1950	97,571
Net ton-miles per serviceable car per day	
September 1951	1,074
September 1950	1,084
Average number railroad employees	
Mid-November 1951	1,258,137
Mid-November 1950	1,289,310



In This Issue . . .

MORE WORK, LESS MONEY in the bank after the work is all done! That's a succinct summary of railroad results for 1951, briefly reviewed in the page 39 editorial.

"EXEMPT" TRUCKERS—i.e., truckers hauling so-called exempt commodities—have brought about a virtual return to pre-1887 days, when there was no regulation or control of transportation rates or services. This "agricultural exemption" has been used, undoubtedly contrary to the original intent of Congress, "to spawn a vast fleet of unregulated trucks," whose operations are detrimental to railroads and regulated truckers alike, and which are a cause of concern to those far-sighted traffic managers who take the long view of transportation problems. How one such traffic manager feels about the problem is told by H. W. Bishop, of the Nash-Finch Company, in an article specially written for *Railway Age*, beginning on page 58.

JUST 20 YEARS AGO last fall, the Great Northern and the Western Pacific opened their "Bieber line"—the Pacific Coast's "inside gateway" for through north-south freight. Both the original and the anniversary celebrations, as well as the construction and economic importance of the route itself, are described on page 52. But in their efforts to provide shippers with better service, the railroads are doing more than just celebrate anniversaries—as witness the improved service over the Bieber line, described in the same article, and such other developments as the Missouri Pacific's new St. Louis freighthouse (page 47).

KNOWLEDGE OF MARKET TIMING, plus close cooperation with government agencies and local shippers, is the secret of the successful transportation by the Canadian National of Canada's enormous annual grain crop — a large part of which moves to market over long distances and within a limited period. How the big movement is handled is told in detail in the feature article which starts on page 41.

JUST BY WAY OF UNDERLINING some of the discrepancies in government treatment of railroads and their competitors—the Post Office Department announced last week that it would divert to trucks about four-fifths of the parcel post now being carried by the Long Island. Result? The railroad will save some \$300,000 a year because it won't have to continue subsidizing the government by transporting mail at less than cost! Other developments in the L. I.'s reorganization case are reported in the news pages.

WEEK AT A GLANCE

In Washington . . .

AS THE NEW YEAR BEGAN, the nation's capital was fairly quiet, railroad-wise, but news developments worth special notice included such matters as Robert R. Young's "New Year's Resolutions" for the railroad industry; a request to the I.C.C. to vacate its rail-barge rate order; announcement that the "non-op" union shop emergency board would resume hearings January 8, and revelation by the U.S. C. of C. of plans for a "transport forum."

AN INCREASE OF 2.2 PER CENT in car loadings for the first quarter of 1952, as compared with those in the corresponding period of 1951, has been estimated by the 13 regional shippers advisory boards. If the forecast is correct, it would point to larger gross revenues in 1952's first quarter, but the experience of 1951—when net declined in the face of higher gross—would seem to indicate that increased traffic won't necessarily mean increased net income for the railroads.

. . . And Elsewhere

NEXT WEEK'S ISSUE of *Railway Age*, dated January 14, will be the 1952 Review and Outlook Number, giving the first complete summary of railroad developments for the entire calendar year of 1951.

"BECAUSE IMMOBILIZATION OF TRANSPORTATION FACILITIES would be the key objective of any group seeking to paralyze the nation's productive capacity in an emergency . . . we urgently recommend that the Congress, through a special committee or its regular committees on Interstate and Foreign Commerce, conduct a thorough and complete investigation into the causes and results of transportation strikes. It should determine whether these strikes, directed against transportation and interfering with foreign and interstate commerce, are due to actual labor issues or are being promoted by those whose primary objective is to weaken our national defense effort. It also should determine whether the nation's laws dealing with strikes affecting interstate commerce are adequate and whether they are being properly enforced."—From a resolution unanimously adopted by the Indiana State Chamber of Commerce at its annual membership meeting on November 16.



D. J. McGANNEY (above), newly appointed vice-president of the Southern Pacific (*Railway Age*, December 31, page 58), has been appointed also president of three S.P. subsidiaries—the Northwestern Pacific, the Petaluma & Santa Rosa and the San Diego & Arizona Eastern. In those capacities, Mr. McGanney succeeds D. J. Russell, who became president of the Southern Pacific on January 1.

A "GRIFFIN PLAN" type of I.C.I. operation has just gone into effect at New Haven, Conn., with January 2 the effective date of the routing guide. The program was sponsored by the New Haven Chamber of Commerce, under the leadership of W. A. Johnson, executive vice-president of that organization. A similar plan is under consideration by shippers at Hartford.

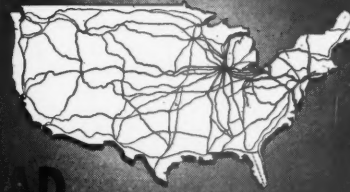
CALIFORNIA TRUCKING INTERESTS are reported to be putting on pressure for the state to add two lanes to the busy highway over Donner Pass. They are playing hard on the national defense angle. Of course, they don't want to pay for the improvement. And the last thing on earth they want is a separate artery for trucks, because that would isolate the costs they ought to pay.



NEWS



OF THE RAILROAD WORLD



First Quarter Loadings Seen Up 2.2 Per Cent

Shipper boards predict rise in 20 of 32 commodity groups

Freight car loadings in the first quarter of 1952 are expected to be 2.2 per cent above those in the same period in 1951, according to estimates of the 13 regional Shippers Advisory Boards, made public on January 2.

On the basis of those estimates, loadings of the 32 principal commodity groups will be 7,327,951 cars in the first quarter of 1952, compared with 7,168,465 actual car loadings for the same commodities in the corresponding period in the preceding year. Nine of the advisory boards estimated an increase and four a decrease in loadings for the first quarter of 1952 compared with the same period of 1951.

The accompanying tabulation shows actual loadings for each district in the first quarter of 1951, the estimated car loadings for the first quarter of 1952, and percentage of change.

The boards expect an increase in the first quarter of 1952, compared with the same period one year ago, in the loading of 20 and a decrease in 12 of the commodities listed.

Among those showing the greatest increase are: Frozen foods, fruits and vegetables, 13.4 per cent; ore and concentrates, 10 per cent; livestock, 9.3 per cent; machinery and boilers, 8.6 per cent; grain, 8.2 per cent; cotton seed, soybean-vegetable cake and

meal, excluding oil, 7.5 per cent; citrus fruits, 7.1 per cent; chemicals and explosives, 6.5 per cent; coal and coke, 5.8 per cent; iron and steel, 4.9 per cent; salt, 4.7 per cent; potatoes, 4.3 per cent; fresh vegetables, other than potatoes, 3.8 per cent; fertilizers of all kinds, 3 per cent; gravel, sand and stone, 2.6 per cent; flour, meal and other mill products, 1.6 per cent, and petroleum and petroleum products, 1.3 per cent.

Commodities for which decreases are estimated include: Automobiles and trucks, 30.4 per cent; vehicle parts, 13.1 per cent; fresh fruits, other than citrus fruits, 9.2 per cent; agricultural implements and vehicles other than automobiles, 6.9 per cent; lumber and forest products, 5.5 per cent; lime and plaster, 4.4 per cent; hay, straw and alfalfa, 3.9 per cent, and paper, paperboard, and prepared roofing, 2.8 per cent.

Shippers Advisory Boards	Actual Loadings First Quarter 1951	Estimated Loadings First Quarter 1952	Percent Increase
New England ..	133,465	140,691	5.4
Atlantic States	785,029	854,532	8.9
Allegheny	967,157	987,686	2.1
Ohio Valley ...	966,671	1,008,101	4.3
Southeast	1,037,281	1,040,508	0.3
Great Lakes ..	472,257	468,104	0.9 dec.
Central Western	285,478	288,818	1.2
Mid-West	837,204	829,102	1.0 dec.
Northwest	245,304	260,782	6.3
Trans-Missouri-Kansas	368,513	360,689	2.1 dec.
Southwest	512,180	516,592	0.9
Pacific Coast ..	337,764	352,745	4.4
Pacific Northwest ..	220,162	219,601	0.3 dec.
Total	7,168,465	7,327,951	2.2

C. W. Wright Reviews 1951 Freight Car Activity

Deliveries greatly increased; outlook for 1952 uncertain

The year 1951 was one of greatly increased activity in the contract car building industry, C. W. Wright, president of the American Railway Car Institute, said in a year-end statement. As contrasted with 1950, when the car builders delivered to the nation's railroads 24,672 new freight cars, deliveries for the first 11 months of 1951 amounted to 62,066 cars, he added. In addition to those built by contract car builders, during the same period in 1951 some 25,000 freight cars were built in domestic railroad shops, bringing the total of new cars delivered through November to about 87,500 units.

Present indications are that December production in both contract and railroad shops may approximate 8,600 cars, which would bring the year's total to about 96,000 new freight cars, or an average of 8,000 a month, Mr. Wright continued. For the 10 months, March through December, when steel was being received under allocations, the average of cars delivered will be about 8,400 a month.

"The outlook for 1952 is uncertain," he concluded. "Steel allocations have been cut still further for the first quarter, which will necessarily be reflected in reduced production. Furthermore, if it becomes necessary to curtail production further it will not

be possible to keep together the labor forces that have been built up and trained by the car builders. This would indicate that even if predictions come true, regarding an easing of the steel situation in the second half of 1952, building back toward the 10,000 car per month level will be extremely difficult."

Reduced Furlough Fares Extended to June 30, 1952

Reduced furlough fares on the railroads for military personnel traveling in uniform at their own expense have been extended to June 30, 1952, Earl B. Padrick, chairman of the Interterritorial Military Committee, announced last week.

Mr. Padrick's group represents all roads in the East, South and West. The present reduction in furlough fares for members of the armed forces would have expired January 31, 1952.

Extension of the reduced-fare arrangement will provide tax-exempt round-trip fares for military personnel on furlough at the rate of 2.025 cents per mile or less, good in coaches only, Mr. Padrick said. This means savings up to one cent per mile and includes regular stop-over and baggage privileges.

Wage Board Will Consider Stabilization Changes

The Railroad and Airline Wage Board will hold hearings "early in the new year, probably the first part of February," to consider recommendations for changes in its present stabilization regulations.

The board announced this plan after a recent meeting at which it also amended its regulations to relieve the railroads and air lines from the filing of detailed reports with respect to escalator-clause increases due the first of next year. However, the amended regulations require the employers to keep records of such increases.

Members of this board are Francis A. O'Neill, Jr., who is also a member of the National Mediation Board, and Walter T. Nolte. (*Railway Age* of December 10, 1951, page 64.)

Board To Resume Non-Op Union Shop Hearings Jan. 8

Emergency board hearings in the "non-op" union shop case will resume January 8 in Washington, D. C., instead of at Chicago, as previously announced. The board will begin hearing the railroad side of the case, having finished with the union presentations before adjourning for the holidays. (*Railway Age*, December 24, page 11).

The three-member board has been granted an extension, until February 15, to file its report. The dispute involves a demand by non-operating employees for a union shop and the check-off of union dues.

Commissioner Lee Exempted From Retirement Rule

President Truman has issued an executive order exempting Interstate Commerce Commissioner William E. Lee from those provisions of the Civil Service Retirement Act which require government employees to retire when they attain the age of 70 years. Mr. Lee will become 70 on January 27, and his present term will expire at the end of 1952.

Three other members of the commission are now more than 70 years old, and they continue to serve pursuant to similar exemption orders issued by the President. They are Clyde B. Aitchison, J. Monroe Johnson, and William J. Patterson.

L.I. Transit Authority Reports on Reorganization

The Long Island is destined for public ownership unless New York State is willing to grant drastic tax relief, the Long Island Transit Au-

thority has said in a summary report to Governor Thomas E. Dewey.

The report also characterized the Pennsylvania's proposed reorganization plan for the L.I. (*Railway Age*, November 26, 1951, page 58) as "illegal and unacceptable" and concluded that under existing law the only practicable solution would be authority ownership. Since the state has placed great emphasis on the desirability of rehabilitating the L.I. through private enterprise, the report said, it has raised and highlighted the underlying question whether the state, to preserve benefits of private ownership and operation, desires to grant additional tax relief. The report suggested that if such relief is granted, taxes and any return on the private owner's investment could be made contingent on earnings.

Summarizing certain matters which "now seem reasonably clear," the report stated:

"The road if operated in a way to give safe and adequate transportation is not, and gives no good prospect of, earning enough to pay present taxes. Recent steps to increase earnings and effect economies . . . have increased the rates of annual revenues by over \$4,000,000 but this has been more than offset by wage increases and higher material costs. However, so long as the railroad is not required to pay taxes and to pay interest to the Pennsylvania as fixed charges, the revenues—in the absence of further spiralling of costs due to inflation—should be sufficient to operate, to finance the modernized equipment necessary for safe and adequate service and to leave something over."

Pennsylvania Plan

The Pennsylvania's plan of reorganization is illegal, in our counsel's opinion. It calls for virtually complete exemption of a private company from state control of rates and service; also for relief from all state and local taxes except those on real estate. It asks for a subordination of real estate taxes to about \$5,000,000 per year for debt service and for the private owners. In practical effect, we anticipate that this would mean either eliminating real estate taxes or severely curtailing service and sharply increasing rates. . . .

We have, of course, considered a private

NEW SERVICES AND PUBLICATIONS OF INTEREST TO SHIPPERS

ASSOCIATION OF AMERICAN RAILROADS, Freight Claim Division—Bulletin No. 1114, "How to Prevent Damage to Canned Goods," prepared by E. J. Kraska, canned goods specialist. A well illustrated eight-page bulletin which recommends use of the "bonded block" method of loading, good doorway protection and liberal use of fiberboard sheets on floor racks and between stacks of different sized boxes.

BANGOR & AROOSTOOK—"Freight Train Schedules—Symbol Book No. 3," dated November 1, 1951.

NEW YORK CENTRAL—Has made the following changes in its scheduled car lines:

Car lines discontinued:

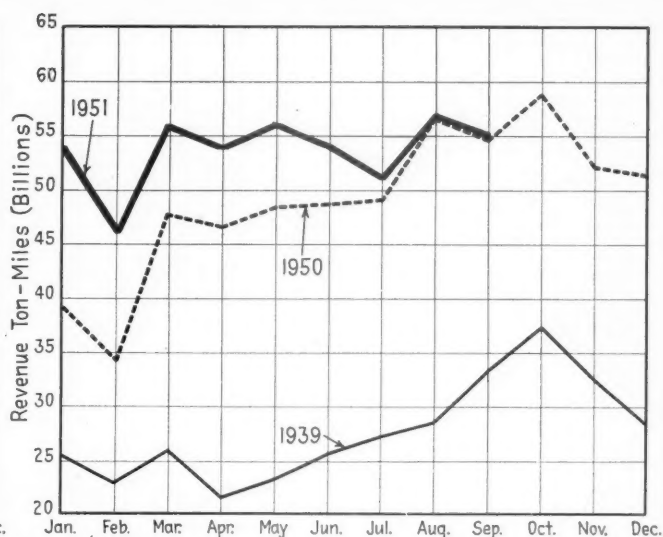
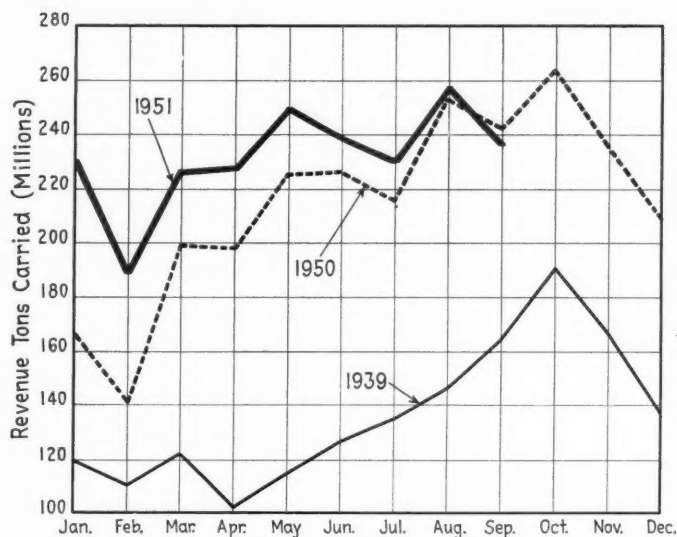
Ogdensburg, N. Y., to Watertown; Elyria, Ohio, to Toledo; Erie, Pa., to Chicago and Dunkirk, N. Y.; Niagara Falls,

N. Y., to Hartford, Conn. (N. Y. N. H. & H.); Worcester, Mass., to New York (33rd St.) ("Pacemaker") and Rochester, N. Y. ("Pacemaker"); Cincinnati, Ohio, to Van Wert, Ohio, Jackson, Mich., and Chicago (Polk St.).

New car lines:

Erie, Pa., to Columbus, Ohio, Gibson Transfer, Ind., and Toledo, Ohio (tri-weekly); Youngstown, Ohio, to Pittsburgh (tri-weekly); Chicago (Polk St.) to Erie (tri-weekly); Indianapolis, Ind., to Erie and Cleveland (N. K. P.); Detroit to Dayton and Springfield, Ohio; Ogdensburg, N. Y., to Utica; Elkhart, Ind., to Mishawaka (truck), South Bend (truck), and Osceola (truck).

PENNSYLVANIA—Loss and Damage Prevention Bulletin No. 28, "Suggestions for the Prevention of Damage to Machinery by Proper Preparation and Loading."



REVENUE TONS AND REVENUE TON-MILES—1951 compared with 1939 and 1950

reorganization by others than the Pennsylvania. But, confronted by the bleak attitude of the principal creditor and stockholder and faced with the discouraging earnings, there appears to be little prospect of anyone else making the substantial investment required for such a reorganization. Control of a reorganized Long Island should, of course, not be turned over to anyone having only a speculative interest.

"Under these conditions, a plan for authority ownership but calling for a lease to, or other agreement with, a corporation to conduct actual operation of the road—with some incentive arrangement but subject to adequate safeguards through authority control—has seemed the only practicable solution unless substantive changes are made in the present laws.

"The greatest single benefit from such a plan is that it makes a reorganization feasible by automatically eliminating future taxes which the road is not earning. This, however, would put a large and permanent burden on the localities. Such a plan would be possible, we believe, without putting the road's employees under civil service—a change which they do not want, and which we do not recommend.

"The spirit of the law under which we are acting places special emphasis on a rehabilitation of the Long Island Rail Road under private enterprise. We understand that this policy is based upon the legislative belief that—as against the benefit of tax exemption in facilitating a reorganization—public ownership marks a new and undesirable method of operating railroads, tends to remove incentive for efficiency and economy and involves the danger of eventual political direction of a complex operation, with the risk of future deficits resulting in direct claims upon the public treasury.

Owner-User "Conflict"

"A problem closely related to the need for tax relief for the railroad is to decrease the conflict of interest between the private owner seeking a return on its investment and the public seeking good and economical transportation. This corrosive conflict has long since reached an acute state between the Pennsylvania and the commuting public on Long Island. And in any private enterprise reorganization, it must be recognized that it is probable that the Pennsylvania interests, since they are virtually the sole creditors

and stockholders, would be the future owners. However, the Pennsylvania—in presenting its own plan of reorganization—has indicated that it would not necessarily insist upon control of the Long Island, provided that the principles of private enterprise in which the Pennsylvania believes are applied in the reorganization. If the law should be amended along the lines above outlined, negotiations would be conducted concerning questions of control and management to protect both the public interest and private owner.

"One possible way to meet the tax problem in a manner to align more closely the public and private interests would be to make both taxes and a return on the Pennsylvania's investment contingent on earnings. In the past, taxes have come ahead of interest. In the Pennsylvania's plan, a return on its investment would be put ahead of taxes. Realistically we cannot expect the road to be able to pay both. But if the private owner and the taxing authorities were permitted by new legislation to share equally whatever is available for distribution after all other appropriate charges, both could expect something where now neither is getting anything. At the same time private ownership and operation would be preserved."

Volume of Truck Traffic Off 1.8% in Third Quarter

Freight volume handled by Class I motor carriers in the third quarter of 1951 was 1.8 per cent below the comparable period in 1950, according to figures compiled by the American Trucking Associations. This is the first third-quarter decline since 1945, the A.T.A. said. It noted, however, that the 1951 third-quarter volume was still 25 per cent higher than in 1949.

The association also pointed out that total 1951 freight volume of motor carriers remained high. In the first two quarters of the year, tonnages were 25 and 10 per cent above the first and second quarters of 1950, respectively.

Figures compiled by A.T.A. for the third quarter were based on returns from 1,318 trucking companies which carried 43,634,745 tons of intercity

freight. In the third quarter of 1950 these carriers handled 44,427,409 tons. The A.T.A. index, based on 1941 as 100, was 217 for the third quarter compared with 221 in the same period of 1950.

On a regional basis, the third-quarter decline was greatest in the New England region, down 10.7 per cent. There were some increases, the highest being 7.4 per cent in the Pacific region.

Freight Car Loadings

Freight car loadings for the week ended December 29 were not available when this issue of *Railway Age* went to press.

Loadings of revenue freight for the week ended December 22 totaled 671,622 cars; the summary for that week, as compiled by the Car Service Division of the Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, December 22			
District	1951	1950	1949
Eastern	112,077	136,165	115,752
Allegheny	134,355	151,760	129,634
Poconantas	54,839	55,244	47,584
Southern	123,050	132,561	111,001
Northwestern	71,592	79,881	67,369
Central Western	117,257	127,305	97,383
Southwestern ..	58,432	64,273	54,534
Total Western Districts	247,281	271,459	219,286
Total All Roads	671,622	747,189	623,257
Commodities:			
Grain and grain products	44,319	52,741	39,964
Livestock	8,554	8,876	7,965
Coal	149,781	152,437	133,983
Coke	16,695	16,128	11,987
Forest products ..	40,691	49,522	36,722
Ore	14,681	13,798	12,268
Merchandise l.c.l. ..	64,592	78,279	77,098
Miscellaneous ..	332,309	375,408	303,270
December 22 ..	671,622	747,189	623,257
December 15 ..	753,194	773,131	639,728
December 8 ..	773,520	766,895	668,825
December 1 ..	821,776	740,165	693,923
November 24 ..	711,447	701,551	664,555
Cumulative total			
51 weeks	39,995,430	38,300,234	35,415,621

In Canada.—Car loadings for the week ended December 22 totaled 70,376 cars, compared with 79,970 cars for the previous week and 74,369

cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
December 22, 1951 ..	70,376	29,908
December 23, 1950 ..	74,369	33,967
Cumulative totals for Canada:		
December 22, 1951 ..	4,117,618	1,753,711
December 23, 1950 ..	3,850,536	1,617,775

I.C.C. Asked To Vacate Rail-Barge Rate Order

Railroad parties in the long-pending "rail and barge joint rates" case have joined one of the barge lines in asking the Interstate Commerce Commission to vacate its order in the case.

The commission accepted these petitions "for the record," and fixed January 21, 1952, as the date by which other parties in the case may file replies.

At present, the I.C.C. order—which is dated June 13, 1949—is scheduled to become effective March 1, 1952, on thirty days' notice. The order requires railroads and water carriers on inland

waterways to establish through routes and joint rail-water rates reflecting differentials under all-rail rates.

Mississippi Valley Barge Line Company now wants the I.C.C. order vacated because its becoming effective "would amount to confiscation so far as our line is concerned."

The barge line said the cost of joint rail-barge routing is greater than direct all-rail routing, because of high terminal costs on barge traffic and the added terminal handling incurred on rail-barge movements.

The railroads told the commission that conditions which apply in this barge line's case must also apply to the Federal Barge Lines and the American Barge Line Company. They said it would violate the I.C. Act to compel railroads to join in rates which would be non-compensatory to a barge line.

The pending order should be vacated or, if deemed necessary, the commission should reopen the case for further hearings, the railroads contended. They said they wanted no specific relief granted the Mississippi Valley line

which would have the effect of denying "fair and impartial regulation" to the rail carriers.

After it was issued in 1949, this rail-barge order was postponed several times while the railroads sought to have it set aside by the courts. The U.S. Supreme Court eventually upheld the I.C.C. (*Railway Age*, January 8, 1951, page 46).

Simpler Tariffs Urged By Pacific Coast Board

A report recommending tariff simplification procedures has been submitted to western railroads by a six-man committee of the Pacific Coast Transportation Advisory Board. The 54-page study proposes, among other things, that all tariffs be reissued promptly to give effect to rate modifications resulting from the Ex Parte 162, 166 and 168 orders of the Interstate Commerce Commission. Views of members of the advisory board as to tariff simplification and consolidation are set forth as developed by a detailed questionnaire.

The chairman of the board's tariff simplification committee is Ralph S. Schmidt, general traffic manager of the Purex Corporation, South Gate, Cal.

Truckers' Pact Is Conditionally Approved

Division 2 of the Interstate Commerce Commission has approved conditionally a rate-procedures agreement entered by some 350 motor carriers as members of the Middle Atlantic Conference.

The agreement was framed pursuant to provisions of the Interstate Commerce Act's Section 5a, which was added by the so-called Bulwinkle-Reed Act. The conditions imposed by the commission will require that the agreement be amended to provide:

(1) That the proponent or any non-carrier participant with respect to a proposal before a standing rate committee may appeal the recommendation of the standing rate committee to the general rate committee for that territory.

(2) That public notice of subjects docketed before the general rate committees, and of disposition advices of those committees, shall be given in national traffic publications in the same manner as are recommendations and disposition advices of standing rate committees.

(3) That any holder of a certificate authorizing operation as a common carrier by motor vehicle in the same territory shall be admitted to membership in the conference on the same terms as existing members.

The commission withheld entry of an order approving the agreement, pending receipt of advices that the applicant truckers have assented to the conditions and amended the pact accordingly. The case is docketed as Section 5a Application No. 23.

Chamber of Commerce Plans Transport Forum

Sixty chief executives from all of the transport industries, and an equal number of shipper and general business executives, have been invited by the Chamber of Commerce of the



A NEW CITY TICKET OFFICE for Beverly Hills, Cal., has been opened by the Santa Fe. Patrons requesting tickets or itineraries deal with ticket clerks while seated at the desk-height counter (foreground, below). The curved leather

covered settee under the oil painting provides additional seating for visitors. The office (above) was constructed on a "piece of pie"-shaped parcel of land at the corner of Wilshire boulevard and Beverly drive



United States to participate in a National Transportation Forum. The forum will be held February 13 and 14 in Washington, D. C.

Its purpose will be "to discuss controversial transportation issues of mutual interest," the chamber's announcement said. It added that subjects selected for discussion include "rate regulation, with emphasis on the desirability of having less of it"; and "the practicability and possible make-up of a single federal transportation agency."

The announcement also said that the chamber's Transportation and Communication Committee would advance a "program for national transportation policy" after considering recommendations which come out of the forum discussions.

R. R. Young Proposes New Year's Resolutions

Ten New Year's resolutions for the railroad industry were proposed in a January 1 statement by Robert R. Young, chairman of the Federation for Railroad Progress. The industry, Mr. Young said, should resolve:

1. To further the introduction of revolutionary passenger equipment such as Train X, promising twice the operating advantages of present equipment at one-third the cost.
2. To further improve through coast-to-coast passenger service.
3. To overhaul archaic passenger ticket and reservation procedures for the convenience of the traveler and economy of the railroad.
4. To continue to stress the improvement of service, as well as courtesy, to the public by management as well as by employees.
5. To substitute cooperation for existing strife between labor and management lest present deteriorating relations lead to pressure from labor and government for nationalization.
6. To insist on the abolition of all kinds of subsidies to the competitors of the railroads at the public's expense.
7. To embark upon a long-range program to improve freight equipment, to reduce the time of all main-line freight schedules, and to take drastic measures in many directions to cut costly delays at terminals.
8. To further reduce damage to freight in transit and handling by at least 25 per cent.
9. To aggressively experiment with new types of complementary service so as to better coordinate the railways with the highways for the benefit of the shippers, as well as for the safety and comfort of the automobilist.
10. To voluntarily extend constructive benefits to labor in return for labor's elimination of certain work rules.

"If the industry would only adopt such New Year's resolutions and live up to them, we would find Congress and the public eager to see that the railroads received fairer treatment," Mr. Young said.

He went on to indicate that such "fairer treatment" might be along these lines: "(a) Requiring automobiles, trucks, air lines and waterways

to get off the railroads' and taxpayers' backs and make their own way; (b) freeing the railroads from rate regulations imposed during a long-gone era in which the railroads had no competition; (c) Enabling the railroads to restore their earnings and to regain their place in the American procession of freedom, equality and progress."

The F.R.P. chairman closed with this comment:

"The American railway passenger fleet in 1929 consisted of 64,000 cars. Today, a greatly reduced and vastly older fleet of 44,000 cars is called upon to provide 10 per cent more passenger miles than the newer fleet was called upon to provide in 1929. Piddling ordering, straight-jacket specifications, and excessive cost of manufacture of present standard overweight equipment has inevitably and finally stopped new buying and put the three leading manufacturers out of business. This, in spite of the fact that nearly 80 per cent of the present fleet is over 20 years old and 40 per cent is over 30 years old."

P.R.R. Tries Two New Locomotive Designs

Four new electric freight locomotives, with many modern developments to provide more efficient and better service, have been built for the Pennsylvania by General Electric and Westinghouse, working in collaboration with railroad engineers.

Three locomotives are already in fast freight service in the road's electrified territory and the fourth is under test. They represent a total cost of about \$3,000,000 and each consists of two identical streamlined units similar in appearance to diesels.

Two locomotives, built by Westinghouse, employ the first application to locomotives of the ignition rectifier, an electronic principle using large mercury arc tubes to convert the 11,000-volt, 25-cycle, a.c. power from the contact system to direct current for the motors. The railroad and the electric company cooperated in adapting it successfully to an electric suburban car, after its initial development for industrial usage, and then further refined it for use on locomotives, improving and simplifying the method of power conversion. Rated at 6,000 hp. continuously, each locomotive is 124-ft. long, has 44-in. driving wheels, and weighs about 755,000 lb.

The other two locomotives, built by General Electric, develop 5,000 hp. each continuously and up to 10,000 hp. during acceleration or when ascending grades. Work on their design began in 1937 but was interrupted by World War II. The parts have been built as simple as possible, and adequate space has been provided within the locomotive to facilitate inspection and maintenance. Each is 108½ ft. long, has 48-in. driving wheels, weighs 491,000 lb. and will

News Briefs . . .

... Two of the Union Pacific's agricultural motion pictures have been chosen by the Economic Cooperation Administration to help boost food production in Marshall Plan countries in Europe. J. W. Jarvis, the U.P.'s supervisor of agricultural development, said that master prints of "Along the Milky Way"—a study of modern American dairy methods—and "Culling Chickens"—which shows how to identify productive birds, etc.—are to be sent to E.C.A.'s Paris headquarters, where duplicates will be made and screened for European production experts. The films—along with selected industrial and technical films from other American firms—are to be given foreign-language sound tracks for this work.

... Postmaster General Jesse M. Donaldson has announced that a special commemorative postage stamp will be issued on the 125th anniversary of the granting of the charter of the Baltimore & Ohio—February 28, 1952.

... Effective December 8, the Quebec Central discontinued railroad passenger service between Sherbrooke, Que., Rock Island, and Newport, Vt., 40 miles. Additional bus service in substitution for train service was inaugurated by the Quebec Central Transportation Company on the following day.

... The New Orleans Public Belt has completed a two-mile line along the industrial canal toward Lake Ponchartrain at a cost of \$100,000. The new line will permit expansion of industrial activity in the area and is currently being used by several firms which have built private sidings into their plants. The project was started in July 1950.

multiple with many existing electric freight units.

The locomotives have traction motors driving all wheels, similar to modern freight diesels. The full weight of the locomotives is thus utilized to produce maximum, tractive force. They are equipped with dynamic braking, in addition to air brakes.

Gordon Denies Need for C.N.-C.P. Amalgamation

At each session of the Canadian Parliament someone raises the old issue of amalgamation, under government auspices, of the two principal railways (Canadian National and Canadian Pacific), to place them both in the field of public ownership. The Socialist, or C.C.F., party is traditionally favorable to this move, but recently a Liberal, Senator George Ross of Calgary, Alta., urged the linking of the two roads, on the familiar argument "Eventually, why not now?"

This brought a reply, possibly not

meant that way because of the short time interval between the two speeches, from President Donald Gordon of the C.N., in an address to the Canadian Railway Club in Montreal. "Enough is enough" was his cryptic comment on amalgamation advocacy. He argued that the two roads were transcontinental, that either of them is big enough to be operated alone.

He said the C.N. operates under a system of checks and balances, of which the privately owned railway is one.

He believes this has developed a set of stable relationships in which the two railways are able to operate side by side, providing service to the Canadian public at a level of rates which is one of the lowest in the world.

Both systems, he said, "will cooperate with each other to the fullest in our mutual interest up to, but not past, the point of giving the other road a single passenger or a single pound of freight.

"Our competition in the railway field is now largely competition in service — in the actual handling of passengers and freight. If we compete against other forms of transport it tends to be a railway approach as opposed to the competing agencies.

"A competitive race in such things as the expansion of branch lines, hotels, steamships and so on . . . has no place in my philosophy. In particular do I deny the place of any competitive practices based on personal animosities or the rivalry of personal ambitions."

Mr. Gordon said he did not believe recapitalization of the C.N. threatens the C.P. "The National's case for recapitalization should be dealt with on its own merits just as the C.P.'s financial position should be considered on its merits."

Mr. Gordon also said economic accident rather than political design brought the C.N. into existence. "The formation of the Canadian National Railways did not and does not now in any sense represent a deliberate experiment in socialism, and to treat the Canadian National as the expression of a political theory is complete nonsense."

S. P. Receives Advertising Award

The Southern Pacific has received the "Socrates' High Award of the Year" for outstanding travel advertising in this country and Canada during a recent 12-month period, Fred Q. Tredway, S.P. general advertising manager, has announced. The judging staff consisted of advertising executives, assisted by editors of the magazine Transportation Ad-Views. Other railroads placing among the first ten in the opinion of the judges were the Baltimore & Ohio, the Union Pacific, the Erie, the Chicago, Milwaukee, St. Paul & Pacific and the Southern.

Locomotives

Purchaser	No.	Type	Issue Reported	Builder
B. & O.	37*	1,500-hp. Freight	Dec. 24	Electro-Motive
	12*	1,600-hp. Freight	Dec. 24	American-G. E.
	6*	1,600-hp. Freight	Dec. 24	Baldwin-Lima-Hamilton
P. R. R.	12	1,500-hp. Freight	Dec. 10	Electro-Motive
	13	1,500-hp. Rd.-Sw.	Dec. 10	Electro-Motive
	32	1,200-hp. Switching	Dec. 10	Electro-Motive
	22	2,250-hp. Passenger	Dec. 10	Electro-Motive
	13	1,000-hp. Switching	Dec. 10	American-G. E.
	2	1,000-hp. Rd.-Sw.	Dec. 10	American-G. E.
	39	1,600-hp. Rd.-Sw.	Dec. 10	American-G. E.
	44	1,200-hp. Switching	Dec. 10	Baldwin-Lima-Hamilton
	1	1,200-hp. Rd.-Sw.	Dec. 10	Baldwin-Lima-Hamilton
	8	2,400-hp. Transfer	Dec. 10	Baldwin-Lima-Hamilton
	13	1,200-hp. Switching	Dec. 10	Fairbanks, Morse
Transportation Corps	14	44-ton diesel-elec.	Dec. 24	General Electric
	3	25-ton diesel-elec.	Dec. 31	General Electric

*To be leased from the Equitable Life Assurance Society.

Freight Cars

Purchaser	No.	Type	Issue Reported	Builder
A. T. & S. F.	30	Mech. Refrig.	Dec. 3	R. R. Shops
M. St. P. & S. Ste. M.	50	70-ton Ballast	Dec. 10	Amer. Car & Fdy.
M.-K.-T.	25	50-ton Flat	Dec. 3	R. R. Shops
P. R. R.	3,600	Gondola	Dec. 10	R. R. Shops
	1,000	Box	Dec. 10	R. R. Shops
	200	Cov. Hopper	Dec. 10	R. R. Shops
	200	Flat	Dec. 10	R. R. Shops
Wabash	200	50-ton Box	Dec. 3	Amer. Car & Fdy.

Passenger Cars

Purchaser	No.	Type	Issue Reported	Builder
C. & E. I.	4	Sleeping	Dec. 10	Pullman-Standard
L. & N.	22	Sleeping	Dec. 10	Pullman-Standard
N. C. & St. L.	3	Sleeping	Dec. 10	Pullman-Standard

EQUIPMENT AND SUPPLIES

Domestic Equipment Orders Reported in December

Domestic equipment orders for 271 diesel-electric locomotive units, 5,305 freight cars and 29 passenger cars were reported in *Railway Age* in December. Estimated cost of the diesel units is \$40,705,000; of the freight cars, \$30,370,000; and of the passenger cars, \$4,727,000. An accompanying table lists the orders in detail.

During the 12 months of 1951 *Railway Age* has reported domestic orders for 2,683 diesel-electric locomotive units and 21 steam locomotives costing an estimated \$418,972,777; 80,000 freight-train cars costing an estimated \$461,813,000; and 151 passenger-train cars costing an estimated \$22,212,000.

Detailed lists, by purchaser, of locomotive and car orders placed in this country during 1951, compiled from data received from purchasers and builders of railroad equipment, will be published in the January 14 Review and Outlook issue of *Railway Age*.

FREIGHT CARS

The **Denver & Rio Grande Western** has ordered 500 70-ton steel gondola cars from the General American Transportation Corporation for delivery during the fourth quarter of 1952.

The **Quebec, North Shore & Labrador** has ordered 15 caboose

cars from the Canadian Car & Foundry Co.

The **Toronto, Hamilton & Buffalo** has ordered 100 70-ton steel gondola cars from the National Steel Car Corporation for delivery in 1953.

LOCOMOTIVES

General Electric Company has been awarded a contract to build 24 diesel-electric standard-gage locomotives for the **Transportation Corps**. G.E.'s winning bid was \$78,895 per locomotive, F.O.B. Erie, Pa. Total value of the contract is \$1,893,480. Delivery of the new units will be at the rate of two per week, starting in nine months. The locomotives are 80-ton, 0-4-4-0, dual engine type. Fifteen are for use by the navy, and the other nine by the Air Force.

This group brings to 41 the number of diesel-electric locomotives awarded to G.E. by the Transportation Corps in recent weeks.

The **Reading** has ordered 24 diesel-electric locomotive units costing \$3,910,000. Most of the units will be used in road freight-switching service, with a few designed for passenger service. Twelve units were ordered from the American Locomotive-General Electric Companies; eight from the Electro-Motive Division of General Motors Corporation; and four from the Baldwin-Lima-Hamilton Corporation. Deliveries are expected to be completed in 1952.

SIGNALING

The American Locomotive Company has ordered from the General Rail-

way Signal Company 41 sets of intermittent-inductive train control equipment. Six sets are to be installed on freight diesels for the **Baltimore & Ohio**, and 35 on switching diesels for the **New York Central**.

The **Jones & Laughlin Steel Corporation** has awarded a contract to the Union Switch & Signal Division of Westinghouse Air Brake Company for installation of an electro-pneumatic interlocking at 29th street, in conjunction with a new open hearth development on South Side, Pittsburgh, Pa. The material includes a panel-type control machine, styles P-5 high signals and N-2 dwarf signals, A-5 electro-pneumatic switch machines, relays, rectifiers, transformers and housings. Construction work is being performed by Union Switch & Signal forces under supervision of the Monongahela Connecting Railroad and Swindell Dressler Corporation, who are engineers for the open hearth project.

The **Union Pacific** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to install centralized traffic control on approximately 145 miles of single track between Marysville, Kan., and Gibbon, Neb. The 10-ft. style C control machine will be installed at Marysville. In addition to code and carrier equipment, the order includes styles H-2 searchlight high and dwarf signals, M-23A dual-control electric switch machines, SL-6A electric switch locks, MC-1 motor car indicators, relays, rectifiers and housings. Field installation will be handled by railroad forces.

SUPPLY TRADE

Richard A. Snyder and **Kenneth W. Montfort** have been appointed district sales managers for the **Pennsylvania Salt Manufacturing Company of Washington**. Mr. Snyder assumes the position of district sales manager of the industrial cleaners division and will head the Los Angeles sales office in the Westland Warehouse building. Before his new appointment, he was technical sales and service representative in Berkeley, Cal.

Mr. Montfort, formerly sales representative, will be district sales manager of the agricultural chemicals division, with headquarters as before in Portland, Ore.

Harry C. Keller, formerly chief of the traffic and rate section of the **Sinclair Refining Company**, has been appointed traffic manager. Mr. Keller joined Sinclair in 1928 and has worked in all branches of the company's transportation operations.

John G. Robison, formerly traffic manager for the **Pennsylvania Salt Manufacturing Company**, has been appointed general traffic manager, and **Leo F. Cannon**, formerly assistant traffic manager, has been appointed traffic manager. **Harvey F. Kerr** and **William J. Beyer** have been appointed assistant traffic managers.

Henry D. Packard has been appointed sales representative in charge of the New York office of the **Taylor-Colquitt Company**.

MORE NEWS ON PAGE 68

Additional supply trade news appears on page 68, followed by other regular news departments which begin on the following pages:

Financial	68
Railway Officers	70

W. J. Walker, a member of the sales manager's staff of the locomotive and car equipment department of the **General Electric Company**, at Erie, Pa., has retired after 45 years of service with the company. Mr. Walker joined G.E.'s test program in 1906 and in 1912 joined the transportation division. In January 1924, he transferred to the railway supply and renewal parts division and in 1931 was appointed manager of that division, a position he held until his appointment to the sales manager's staff in October 1947.

The **Railway & Industrial Engineering Co.**, wholly owned subsidiary of the **I-T-E Circuit Breaker Company**, ceased doing business as a separate company, effective December 31, 1951, with assets and business, subject to all of its obligations and liabilities, acquired by I-T-E. It will be known as the "R&IE Equipment Division of I-T-E Circuit Breaker Company," and will continue all present operations in Greensburg, Pa. **K. S. Nevin** has been elected a vice-president of I-T-E Circuit Breaker (Continued on page 68)



PS-1'S FOR THE ARMED FORCES.—An illustration of the armed forces' unification policy in action was taken at Michigan City, Ind., when members of four military departments recently took delivery of 212 PS-1 box cars from the Pullman-Standard Car Manufacturing Company. The delivery was unique in that it involved four branches of the armed forces in a single procurement of a standard railroad car. (Railway Age, September 24, page 72.) Shown from left to right in front of the cars representing their respective

branches of the service are Lt. Com. W. W. Shipley, U. S. Navy Bureau of Yards and Docks (which took 39 cars); Col. G. M. Jarvis, transportation officer, 5th Army Corps, and Lt. Col. W. H. Hathway, Railway Transportation Service Division, 5th Army Corps (150 cars); Lt. Col. E. E. Brzuska, U. S. Air Force regional representative, Mid-Central Procurement District (13 cars); and Lt. Col. William R. Gifford, of the U. S. Marine Corps Supply Department Headquarters (which took delivery of 10 cars)

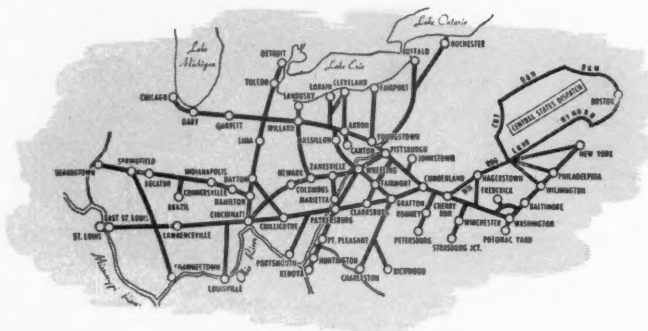


NOW YOU CAN DO THINGS, MR. SHIPPER!



No longer are your hands tied by not knowing your car's whereabouts. Through B&O's *Automatic Records*, a vital part of Sentinel Service, shippers and receivers are informed when the schedule of a Sentinel car is interrupted—and again when it resumes movement.

Siding-to-siding dependability plus *Automatic Records* makes Sentinel Service a lifesaver. It is available, on carload freight, to on-line and off-line shippers. Let it ease *your* production and distribution problems. *Ask our man!*



BALTIMORE & OHIO RAILROAD

Constantly *doing things*—better!

1951—MORE WORK DONE; MORE MONEY SPENT; LESS LEFT IN THE TILL

The year 1951 brought plentiful paradoxes in the railroad business. Freight traffic (based on a comparison of ton-miles for the first eight months) was the highest of any year in history except the war years 1943-45. Freight revenues were the largest of any year. The money spent by the railroads during the year on their properties—to cut costs and improve service—will constitute, according to preliminary estimates, a new all-time record. The usual indices of operating efficiency in freight service attained new highs.

But at this point the "boom" atmosphere ends. The earnings left to the carriers were less than they were in years of lower industrial activity—indeed, were at a depression level when the halved purchasing power of the dollar is taken into account. Every business man acknowledges "margin of profit" as the all-important measure of "How am I doing?" In the first eight months of 1951, the railroads' margin (i.e. ratio of "net railway operating income" to "operating revenues") was under 8 per cent—considerably less than it was in the comparable periods of 1950, 1948 and 1947, when freight traffic was not as great as in 1951. Total operating revenues were up almost 15 per cent over 1950, but "net railway operating income" (from which interest payments must be deducted and which is the only source, directly or indirectly, of future capital expenditures) was down almost 8 per cent.

The large additions and betterments made in 1951 were financed almost entirely by installment buying and drafts on working capital. President W. T. Faricy of the Association of American Railroads reported, at the association's annual meeting on November 16, 1951, that the railroads' working capital had been "worked" down to the point where there was only a little more than enough money in the till to cover the railroads' cash needs for one-half of one month. The shrunken margin of profit in the railroad business places in jeopardy continuance of improvements at the high level sustained since the close of World War II.

This prospect is as alarming to shippers as it is to railroaders. Earl Smith, vice-president and director of traffic of General Mills, Inc., for example, warned his shipper colleagues recently that it will be impossible for the railroads to improve their properties and reduce their funded indebtedness at the present rate "indefinitely." If the railroads are to be able to continue necessary improvements and expansion, Mr. Smith emphasized, they must have adequate and reasonably regular earnings. The remedy, he said, is a change in government policy toward transportation in general and the railroads in particular.

The railroads in 1951 chalked up all-time records in the efficiency with which they used the cars and locomotives at their command. The most all-inclusive measurement—because it takes account of both tonnage and speed—is "gross ton-miles per freight-train hour." At the end of the first eight months of 1951 the railroads had pushed this average to 46.314—four per cent higher than in 1950 and the best attained in any year previously. The 1951 performance exceeded by almost 25 per cent the record of the first postwar year, 1946, and by 24 per cent even wartime 1944, year of all-time record traffic, heavy loading orders and mass military movements. At the same time, cars per freight train reached the record total of 59.7—almost 2 per cent higher than the figure for 1950 and the highest in history. Car-miles per car-day (a joint product of carrier efficiency, traffic level and the speed with which shippers release cars) reached 43.9—up 5.2 per cent over 1950.

Service Improvements

Improvement of freight service is hard to judge and harder to measure. The best critic is the user himself—and sometimes even he cannot line up his appraisal fairly with the times and the conditions under which service is rendered. A reviewer can only point to scattered signposts of progress. Here are some of the signposts—

During 1950 technical committees of railroad men under the Association of American Railroads carried out 150 separate research projects in whole or in part. All of them affect railroad users to some extent. Those of the projects having a direct bearing on freight service included: tests of different designs of freight car trucks and snubbers to determine riding quality and effect on lading; further applications for, and refinement of, radio and induction communication on trains and in yard operations; and work on the problem of hot boxes. The research program in 1952 will be the largest in history.

Railway Age's nationwide survey of freight stations showed that, as of September 1, 1951, a total of 894 railroad freighthouses and transfers had available materials handling equipment designed for use with unit loads. This total was 85 per cent greater than the number so equipped in May 1948, when the first comparable list was published. A number of railroads expanded motor truck operation in substitution for way freight trains for less-carload shipments. Many more would have done so, except that a policy of the Interstate Commerce Commission—sanctioned by a Supreme Court decision in February, upholding the commission's "death sentence" for certain operations of affiliates of the Rock Island and Texas & Pacific—inhibits wider railroad use of trucks, because it imposes uneconomic restrictions on their operation.

In October the railroads established a Tariff Research Group, with the job of going to the users and providers of freight service and determining: (1) What is the trouble with present tariffs? (2) What is the cure? and (3) How can desired changes be accomplished? The group has assurances of cooperation from the National Industrial Traffic League, state commissions, and the I.C.C.

Shippers Are Concerned

The joint efforts of the carriers and their customers bore fruit during the year in the troublesome and perennial job of trimming claims costs. While claims paid were higher in dollar amount, they were lower in relation to traffic and revenues. In 1950 claims in relation to ton-miles had been reduced more than 30 per cent, compared with 1949. In the first half of 1951, the ratio of claims to ton-miles went down another 6.5 per cent. The ratio of loss and damage to freight revenue in the first half of 1951 was 1.06 per cent, compared with 1.20 in 1950. In September, the A.A.R. board authorized establishment of a new freight loss and damage section, to be headed by a full-time director, who would also be chairman of a new National Freight Loss and Damage Prevention Committee of 20 members.

The past year left no doubt that the shippers are more interested than ever in railroad service and in how they can help the railroads help *them*. Here, too, there were paradoxes. Among the numerous ideas tossed on the table was one for some kind of national agency by the railroads to deal with less-carload traffic. Now,

shippers are natural proponents of competition. Yet, a group actually entertained the notion of eliminating competition between railroads on one class of traffic.

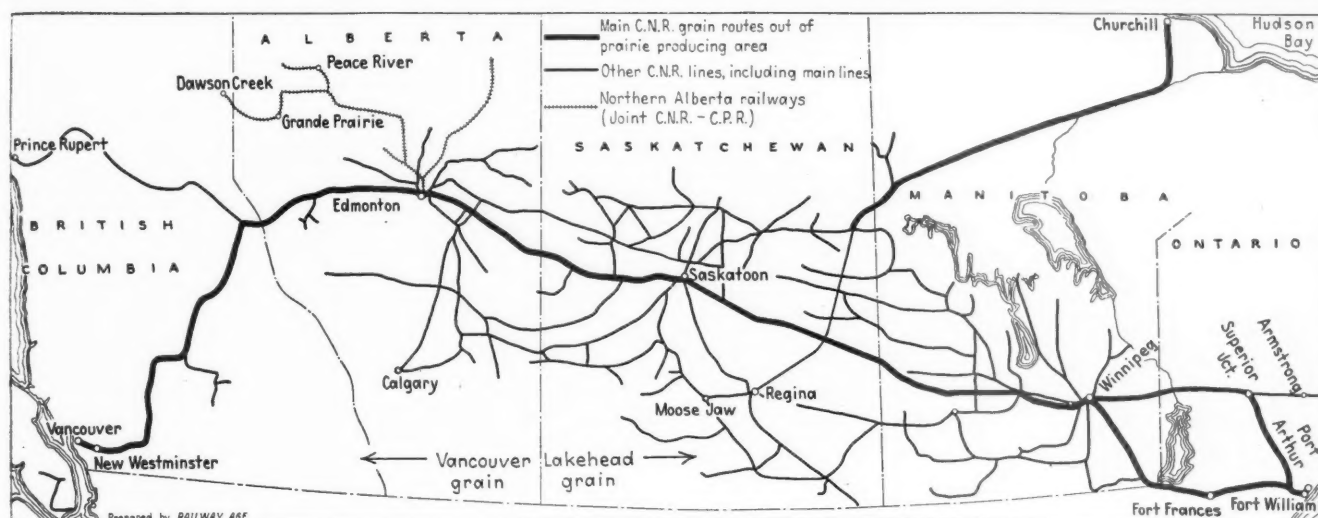
The object of the proposal was, of course, to try to solve a problem which is costly to railroads and shippers alike—namely, the existence of so many diverse routes that few of them are accorded enough merchandise traffic to enable them to provide good service at a reasonable price.

While the idea of a unified agency received no official backing from any railroad, the problem which gave rise to it received plenty of attention during 1951. Several pooling arrangements between specified points were expanded during the year. A number of eastern roads are reported to have begun study of a kind of modified pooling scheme, by which individual lines would agree upon better-service routes out of specified points by the roads best equipped to provide them. Roads would withdraw from less-carload service between those points where the route in which they participate is inherently inferior. On the other hand, between points where their route is "strong," they would have opportunity to handle more traffic more efficiently.

A Heartening Possibility

On their part, shippers have given increasing attention to voluntary use of "best-service routes." On the other hand, many railroads have complained that expensive improvements to their less-carload service have produced a disappointingly small amount of additional traffic. This complaint got confirmation from a committee of the Trans-Missouri-Kansas Shippers Advisory Board which commented recently on the paradox of steadily shrinking less-carload traffic in the face of "markedly improved service—particularly between major terminals." It is clear that "business must follow service"—otherwise there is no incentive to spend money to provide superior service.

The railroads have long made it known that government policies regarding subsidy and regulation would lead to disaster. Until recently, those undertaking the job of "education" have felt, for the most part, as ineffectual as a voice crying in the wilderness. But 1951, they like to think, saw the beginning of the "payoff." Shippers, both individually and in national groups, expressed genuine alarm over the trends in transportation; they found themselves perhaps in closer agreement with the railroads on policy matters than ever before. Then, in October, there came forth, from the hand of Senator Bricker of Ohio, a "progress report" of a subcommittee of the Senate Interstate and Foreign Commerce Committee investigating domestic land and water transportation. The road between a report and legislation is a long one. Nevertheless the degree to which the report backs the contentions of the railroads—and all believers in equality of treatment—is heartening. The year of paradoxes—1951—could be the beginning of big things.



Main channels of movement of export grain from western Canada, via the Canadian National

Finger-tip Control of Grain Movement

Canadian National achieves remarkable turn-around of scarce cars for early western grain through knowledge of market timing

In the face of almost chronic congestion of terminal elevators, vast distances to be traversed and wicked winters throughout the production territory, the Canadian National manages to get fast turn-around on box cars used to move grain out of the so-called prairie provinces during the peak season of September-November. When navigation on the Great Lakes closed late last year, the C.N.R. had moved as much as possible of Western Canada's all-time record 1951-1952 crop—an estimated 548 million bushels of wheat alone, plus 328 million bushels of oats; 242 million of barley; almost 17 million of rye and more than 9 million bushels of flax. (In 1950, the whole of the United States produced somewhat more than 1 billion bushels of wheat.)

If railroaders in the grain-producing territories of U.S. believe they are harassed by the grain trade, the growers, and the politicians who represent them, they may find some solace in the plight of the Canadian lines in the grain-growing provinces of Manitoba, Saskatchewan and Alberta, where (except for oil in Alberta) grain is the main subject of conversation and source of revenue, and the dependence of the population upon all-weather, mass-movement railways is just about absolute. As is true south of the border, the Canadian roads are expected, each harvesting season, to come forth with enough box cars to move, at once, a grain crop which is harvested within a period growing narrower each year, as combines take over the job. Obviously, the only result of such an impossible demand is what the producers and others call "a car shortage."

But the facts show that, by careful coordination with the elaborate system of controls over seeding and mar-

keting which the dominion government has seen fit to establish, the railways are able to anticipate loadings accurately—not only by districts but actually by individual country elevators—and can spread the available cars accordingly. While the allocation of cars, once they are set out at the loading stations, must be carried out according to a formula set by law, the distribution among the districts and stations is up to the railways themselves. However the grain provinces may complain about the total number of cars available for grain as a whole, there is little hue-and-cry about discrimination among the various producing districts or among individual shippers—a fact which is eloquent praise of the Canadian lines' car service.

The vast majority of grain grown in the three western provinces is for export. When shipped via the C.N.R. it finds its way out of the producing areas by three main channels, as shown on the accompanying sketch map. The most important route is through Winnipeg and down to the head-of-the-lakes ports of Fort William and Port Arthur, Ont., which have a total terminal capacity of 93 million bushels. Here it is loaded into Great Lakes vessels for movement to Georgian Bay ports—thence by rail or canal to Montreal, Quebec (city) or other deep water ports for transshipment to ocean ships. Some grain goes by Great Lakes to U.S. terminal cities for export through U.S. or Canadian Atlantic ports.

For eastward-moving grain, the lakes ports are supplemented by the far-northern port of Churchill, at the end of the romantic, pioneering Hudson Bay railroad operated by the C.N.R. which was opened in the late twenties as a shorter route to Europe for products from

Portage-Brandon Division

Manitoba District
BUSHELS IN THOUSANDS

19

SUBDIVISIONS AND STATIONS	MARKETED YESTERDAY		LOADED YESTERDAY FOR EAST				LOADED YESTERDAY FOR WEST				Cars O.R. Available for Grain 8K Above Date			CARS Required	GRAIN IN STORE LAST NIGHT — Thousand Bushels					ALL GRAINS LOADED AUG. 1 TO LAST NIGHT		Grain Doors On Hand Above Date		Elevators and Farmstead Annoyances		Temporary Annoyances								
	Wheat	Other Grains	Wheat	Other Grains	Wheat	Other Grains	Wheat	Other Grains	Wheat	Other Grains	Load- ing	Empty	To Un- load	Next 72 Hours	Wheat	Other Grains	Cars	Bushels	Wheat	Other Grains	Cars	Bushels	Full Size	Half Size	No.	Cap.	No.	Cap.						
	Bahls	Bahls	Cars	Bahls	Cars	Bahls	Cars	Bahls	Cars	Bahls																								
	A	B	C	D	F	G	J	K	M	N	R	S	U	W	X	Y	Z	AB	AC	AF	AG	AJ	AK	AM	BA	BC	BD	BF	BG	BJ	BK			
LETELLIER SUB.	1																																	
*Emerson Jet.	2																																	
*Christie	3																																	
*Letellier	4																																	
*Martin's Spur 47	5																																	

Top portion of daily station grain report prepared by each operating division. Bushels are shown to the nearest thousand. "8k" in heading over Columns XYZ means 8 a.m., since the western regions of the Canadian roads use 24-hour time. Car requirements recorded under Column AB must be based on the ability of shippers to load and in accordance with track facilities and train service

DAILY GRAIN SUMMARY
BUSHELS IN THOUSANDS

19

DISTRICT		MARKETED YESTERDAY		LOADED EAST YESTERDAY				LOADED WEST YESTERDAY				LOADED CHURCHILL YESTERDAY				Cars on hand available for grain 8K above date			Cars Required	GRAIN IN STORE LAST NIGHT		ALL GRAINS LOADED	
		Wheat Bushels	Other Grains Bushels	Wheat		Other Grains		Wheat		Other Grains		Wheat		Other Grains		Loading	Empty	To Unload	Next 72 Hours	Thousand Bushels		August 1st to last night	
				Cars	Bushels	Cars	Bushels	Cars	Bushels	Cars	Bushels	Cars	Bushels	Cars	Bushels					Wheat	Other Grains	Cars	Bushels
MANITOBA DISTRICT	Pt. Arthur Division																						
	Portage Brandon Division																						
	Dauphin Division																						
SWAN T.	Regina Division																						

Top portion of summary report compiled daily by superintendent of car service, at Winnipeg, on the basis of totals arrived at in separate divisional report above

CNR 9041
6-51

CANADIAN
NATIONAL
RAILWAYS

CARS OF GRAIN IN TRANSIT 24:01K

19

DIVISION	AT STATIONS			IN TRANSIT			TOTAL	PACIFIC COAST	CHURCHILL
	LAKELAND	OTHER	U.S.	LAKELAND	OTHER	U.S.			
PORT ARTHUR									
WINNIPEG									
TRANSCANA									
FT ROUGE									
PTGE-BRANDON									
DAUPHIN									
REGINA									
SASKATOON									
PR ALBERT									
EDMONTON									
BOSON									
CALGARY									
WILLOW									
TOTAL							8		
UNHAND									
LAKELAND									
PACIFIC COAST									
CHURCHILL									
GRAND TOTAL									

Report drawn up daily shows the number of grain cars moving, or at stations to move, destined to the lakehead ports, the Pacific Coast and Churchill, respectively

the prairie provinces. Churchill has an elevator capacity of 2.5 million bushels.

Most of the grain produced in Alberta is marketed westward through Vancouver and New Westminster, B.C., with a capacity of 18 million bushels. In addition to these port terminals, full use is made of so-called "interior government elevators" at Moose Jaw, Sask.,

and Saskatoon, and at Edmonton, Alta., and Calgary. for storing, drying and conditioning grain.

All grain to the lakehead ports moves via Winnipeg, Canada's great grain center, where classification and hold yards permit quick sampling by government inspectors. (Inspection is said to add, on the average, four hours to the time that would otherwise be required to move the cars through Winnipeg.) Inspection of grain to Churchill is customarily made at The Pas, while Edmonton and Calgary are the chief sampling points for Pacific-Coast-bound grain. At the ports, the grain is again inspected by means of an automatic sampler which gathers up a representative portion as it is unloaded from the cars. The carlot is then weighed, cleaned and stored in terminal bins, according to grade. When ship space is ready, the grain is again weighed, while a government inspector takes a running sample of the stream as it pours into the vessel's hold. It is at this point that the "Certificate Final" is issued on the cargo.

Quick Turn-arounds

During each grain shipping season the C.N.R. selects a given number of cars at random and tags them for careful check of loading, transit and unloading times, so that a sample "turn-around" period may be ascertained. During the most recent data cycle, a sample of 400 cars in the movement to the lakehead showed an average turn-around—from the time of one loading at a country station to the next loading there—of 14.8 days from points in Manitoba to the head of the lakes, with a minimum one-way distance of 438 miles, and an average of 572. This time included movement back from



The Western Canadian grain harvest is packed into a short period starting about September 1 and lasting until the severe northern winter sets in

the ports to the "country," including reconditioning of equipment. Average turn-around of cars from Saskatchewan points was 18.5 days, with an average distance of 835 miles. Average turn-around in the most recent cycle from points in both Manitoba and Saskatchewan to the port of Churchill was 16.7 days—average one-way distance being 760 miles. Turn-around time on an analysis group of cars from points in Alberta to the Pacific Coast ports averaged 16.7 days, with one-way distances as great as 1,100 miles from Peace River points, and an average haul of 825 miles. This movement requires a crossing of the Rockies and several lesser mountain ranges.

So high a utilization of cars, in a country of relatively sparse population and vast distances, can be accomplished only by centralization of control of car service and by careful dovetailing of car distribution with timely, detailed marketing information. Very few (not more than one per cent) of the country elevators are located on more than one railroad. The Canadian lines use only empties of their individual ownership for loading. There is no interline movement of grain to the primary terminal ports.

Hence the furnishing and movement of cars for grain is entirely within the province of each of the two systems—Canadian National and Canadian Pacific—together with the Northern Alberta Railways serving the Peace River—Slave Lake region, which they operate jointly.

For statistical purposes, the crop year begins August 1. Actual harvesting usually starts late in August or

early September. In 1951 the start of movement of the new crop was retarded some 45 days because excessive and unseasonable rains and snow held up the harvest, a fact which greatly handicapped the railways in getting the maximum quantity to the lake ports before the close of navigation. (In late October, too, temperatures dropped to below zero.)

As noted, the Canadian wheat crop this year is estimated to be the greatest in history, with correspondingly high yields of the lesser grains. Wheat production will exceed last year's by more than 28 per cent. What the Canadian lines will have moved before the crop year closes next July 31 may be gaged by reference to the 1950-1951 record, with proportionate increases in the totals.

121,853 Cars Loaded in 1950-51

During the crop year 1950-51, more than 229 million bushels of all grains were loaded in some 121,853 box cars at C.N.R. stations. Of these loadings, 89,858 (or 73.7 per cent) were released at the lakehead ports of Port Arthur or Fort William; 13,803 cars (or 11.3 per cent) went to Vancouver or New Westminster; and 4,182 cars (or 3.4 per cent) went to Churchill. The balance of the crop went to flour and feed mills within Canada or to interior elevators. The first car of wheat was loaded on August 31, 1950.

Carloadings of all grains out of points in the three provinces on the C.N.R., and C.P.R., during the last full crop year, by months, were as follows:



Since most prairie grain is for export, it moves in clearly defined channels to seaboard

Month	C.N.R.	C.P.R.
Aug.	3,219	4,523
Sept.	10,828	12,263
Oct.	15,927	14,893
Nov.	14,948	13,461
Dec.	9,796	11,035
Jan.	6,647	8,701
Feb.	4,374	5,408
Mar.	4,428	4,563
Apr.	10,664	12,842
May	16,013	19,253
June	11,814	14,811
July	13,195	13,265
Total	121,853	135,018

At the peak of the shipping season, the C.N.R. was putting 600 cars a day into the head-of-the-lakes ports alone.

The main movement to the lakehead occurs from August through to the close of navigation early in December. During the period of closed navigation, there is a substantial all-rail movement of grain out of these ports to meet flour and feeder requirements in eastern Canada and export requirements through the ports of Saint John and Halifax, and the railway continues to put cars from country loading points into the lakehead ports, up to the capacity of the terminal elevators. To the port of Churchill—where navigation is open only from late July to early October—the maximum movement must take place within a strictly limited period. In contrast, since the Pacific ports are open all year, a steady movement thereto is possible, with the maximum accomplished while the Alberta crop is being harvested.

"Normal" traffic—other than terminal grain—in the Western region of the C.N.R. (i.e. lines west of Armstrong, Ont., and the lakehead ports) requires a pool of about 16,000 box cars. By August 1, 1951, the railway had 22,700 and, by September 1, 24,000 box cars on hand. The preponderant direction of movement of cars between the Western region and the rest of the system is eastbound; hence there is an almost constant need of correction of the car balance—by requisition on the Eastern lines.

The Canadian grain trade views with mixed emotions the tight marketing control which is exercised by the government over the primary grains produced in western Canada. (The much lesser volume of grains produced in

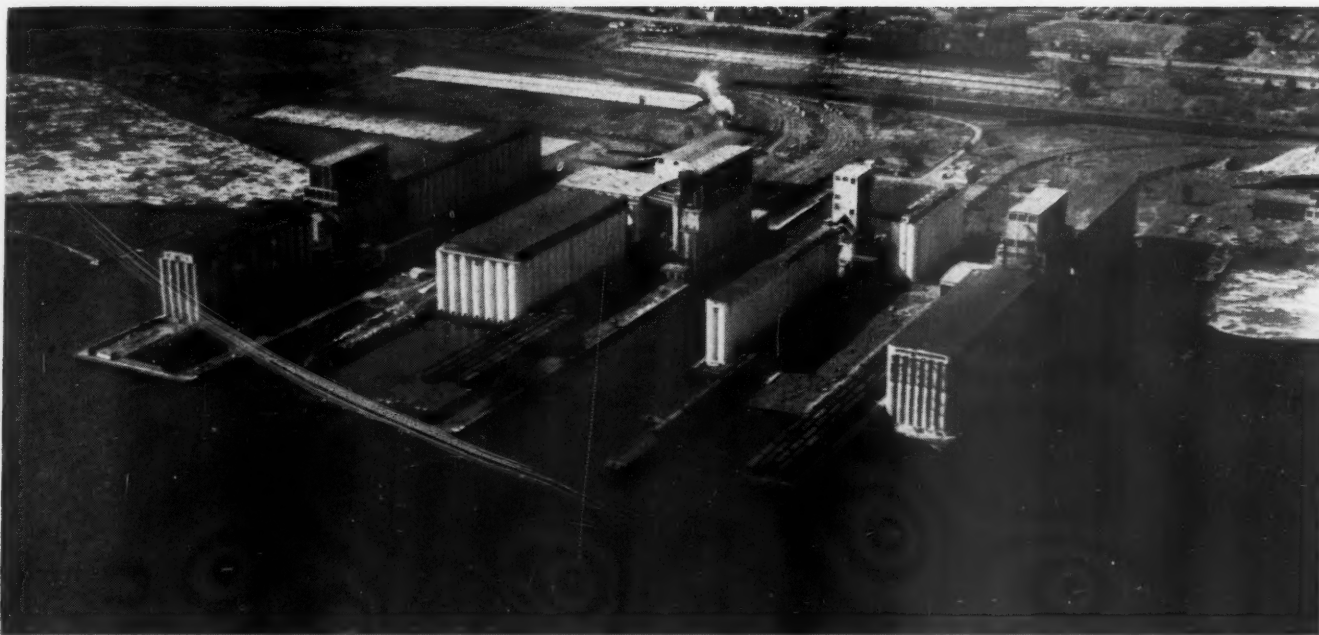
eastern Canada enjoys a free market.) Whatever the merits of that control, however, the fact is that it plays an important part in the techniques of car service and preparation for transportation which the Canadian railways employ.

The production, pricing and marketing of wheat, oats and barley are controlled by the Canadian Wheat Board, an agency of the dominion government, with headquarters at Winnipeg. This board issues to each farmer a so-called "permit book," in which is recorded the acreage he has planted to each type of grain and the railroad station to which he must make delivery of his crop. About August 1, at the commencement of each new crop year, the board establishes the number of bushels per seeded acre of each type of grain which a producer can deliver. Based on the space available to accommodate deliveries at both country and terminal elevators, and in vessels, the quotas are increased as conditions permit during the crop year. As he delivers his grain in accordance with the quota, the farmer has his deliveries recorded in his permit book by the elevator operator, so that the latter can be sure that the quota is not exceeded.

Daily Reports by Telegraph

From each of the 1,010 grain loading stations on the C.N.R. a daily grain report is telegraphed to each divisional chief dispatcher's office showing (1) the wheat and other grains marketed, and loaded, respectively, the previous day, in terms of bushels and cars; (2) cars on hand available for loading; (3) cars required within the next 72 hours; (4) total bushels of wheat and other grains in store; and (5) accumulative total of cars and bushels of all grains loaded from the commencement of the crop year. From this information the divisional car distributor allots the box car supply to the various loading stations in accordance with their needs and Wheat Board requirements.

The allotment of cars to the individual grain-loading railway divisions is under the control of the superintendent of car service at Winnipeg who, through the



A large proportion of prairie grain flows through the highly-developed lakehead ports of Port Arthur, Ont., and Fort William, where there are facilities for cleaning and grading

daily grain and car reports, has a first-hand knowledge of the entire situation and distributes the available equipment through the various gateways in proportion to their needs and the manner in which the Canadian Wheat Board requires the crop to be disposed of. Information from the board is as important in the overall distribution of cars as the reports from the loading stations.

The railroad's transportation department is in constant touch with the Wheat Board and receives lists of new quotas relating to the individual loading stations. Quotas are listed for stations grouped in alphabetical order, by provinces. They are raised progressively whenever the station will absorb additional deliveries.

The board advises the railways how many cars should be put into the ports, into transit points and into domestic mills to meet their demands, and within the amount which can be unloaded expeditiously. Within these limits, and using average transit time as a factor, the C.N.R. allocates cars to gateway points for distribution to individual stations in accordance with instructions from the Wheat Board—namely, that preference is to be given those stations which have not yet fulfilled their delivery quotas and for which quotas remain unchanged for the longest period.

Thus, at the beginning of the crop year, the quota for stations A to G and for stations H to K may be set at 5 bushels per seeded acre. After some weeks, when the market and shipping capacity permit some degree of expansion, the quota for stations A to G may be raised to 10 bushels, although the quota for H to K remains at 5 bushels. The railroad is required to give preference to the latter group—since the aim of the control system is to give every farmer an equal chance to market an equal portion of his crop.

As of the end of November each year—and sometimes in the spring—the Wheat Board gives a final estimate of the total marketings of grain at each railroad loading station, which, by reason of machine accounting, is accurate and up-to-the-minute. By this means it arrives at the total marketable grain which each of the two rail-

road systems may expect to carry during the remainder of the crop year. In addition to these sources of information, at the beginning of the crop season the C.N.R. sends a questionnaire to each of the 2,353 country elevators on its lines (having a total storage capacity of 120 million bushels), asking them to list (1) the seeded acreage and (2) expected yield per acre, for each type of grain, for the farms served by it. The elevator operator is able to give this information, because, as noted, he records all farmers' "permit books." On the basis of these returns the railway is able to draw up rough preliminary plans for the distribution of cars throughout the crop year, because it knows the estimated extent of the crop as a whole and major changes in production among the grain-growing districts.

How Shippers Fare

Once the empties are switched out at individual loading stations, their distribution among the individual shippers of grain must be handled in strict accordance with the Canada Grain Act, which is administered by the Dominion Board of Grain Commissioners, which has headquarters at Winnipeg. This law is based on the principle that, in the distribution of cars, every shipper shall count as one unit—regardless of the amount of grain which he has to ship.

The basis of allocation of cars is the official car order book which is kept by the railroad agent at each station. (At non-agency stations, the book is kept, for a fee, by an authorized representative of the railway, such as postmaster, storekeeper, etc.) Open to the public at all times, these books contain applications for cars in the order in which they are received. Any grain shipper may order cars according to his shipping requirements, specifying the size of car desired. As they are switched out at the station, cars are "awarded" applicants in the order in which their applications appear in the book.

Every shipper, within three hours after receiving notice from the agent that the car has been placed, must give notice of his ability and intention to load it. Within

24 hours after giving this notice, the shipper must complete his loading of the car, during the months of September-November, and within 48 hours during the remainder of the year.

When a shipper has loaded a car allotted to him (or cancels a car because of inability to load), and requires another car, he becomes eligible therefor by placing his name at the bottom of the list on the order book. When this second car has been received, and used, he may again write his name at the bottom of the list, and so on until his requirements have been filled. No shipper is permitted to have more than one unfilled car order on the order book at one time, except that the manager of an elevator may have two in his own name, and one "by proxy" for a producer.

Most of the shipping stations for grain in the prairie provinces are equipped with truck loading platforms, so that the farmers may load grain directly into the cars, without utilizing the services of the elevators.

World's Cheapest Rates

The great Western Canada grain crop (plus flour) is moved as far as the terminal ports, both eastward and westward, at what is believed to be the lowest freight rate per mile in the world. The rate is not set by the railroads nor by regulation authority. Unlike other railroad charges it is fixed permanently, in specific cents per 100 lb., by statute, resulting from a contract between the government and the Canadian Pacific in 1897.

REPRESENTATIVE CROWSNEST PASS RATES ON GRAIN FROM WESTERN CANADA

To Port Arthur and Fort William

From	Miles	Rate in cents per 100 lb.
Winnipeg	420	14
Brandon	553	16
Regina	776	20
Moose Jaw	818	20
Calgary	1,242	26
Edmonton	1,228	26
Grande Prairie	1,635	35½
Peace River	1,545	33½

To Vancouver and New Westminster

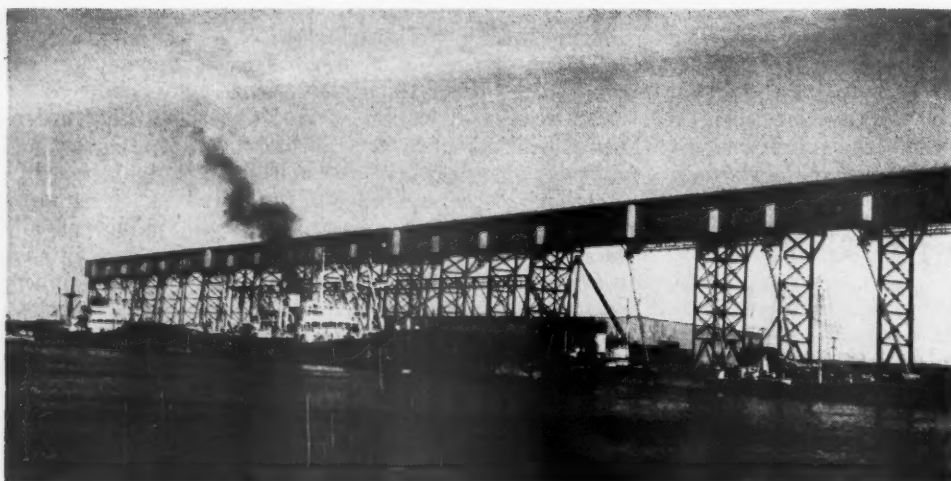
From	Miles	Rate in cents per 100 lb.
Calgary	642	20
Edmonton	765	20
Peace River	1,082	26

Extensive changes in the rate have occurred since that date, and for a period, Crowsnest Pass rates were suspended altogether, but since 1925 the rate has been held at a level of 3 cents for 100 lb. less than was charged by the C.P.R. from prairie grain producing points to Port Arthur and Fort William in September 1897! This, in the face of a much higher general level of prices and despite the fact that the rate was low when it was established. These low, pegged rates have been further extended by orders of the Board of Transport Commissioners and by the necessity of the C.N.R.'s matching them if it was to share in the business. (Representative Crowsnest Pass rates are set forth in the accompanying table.)

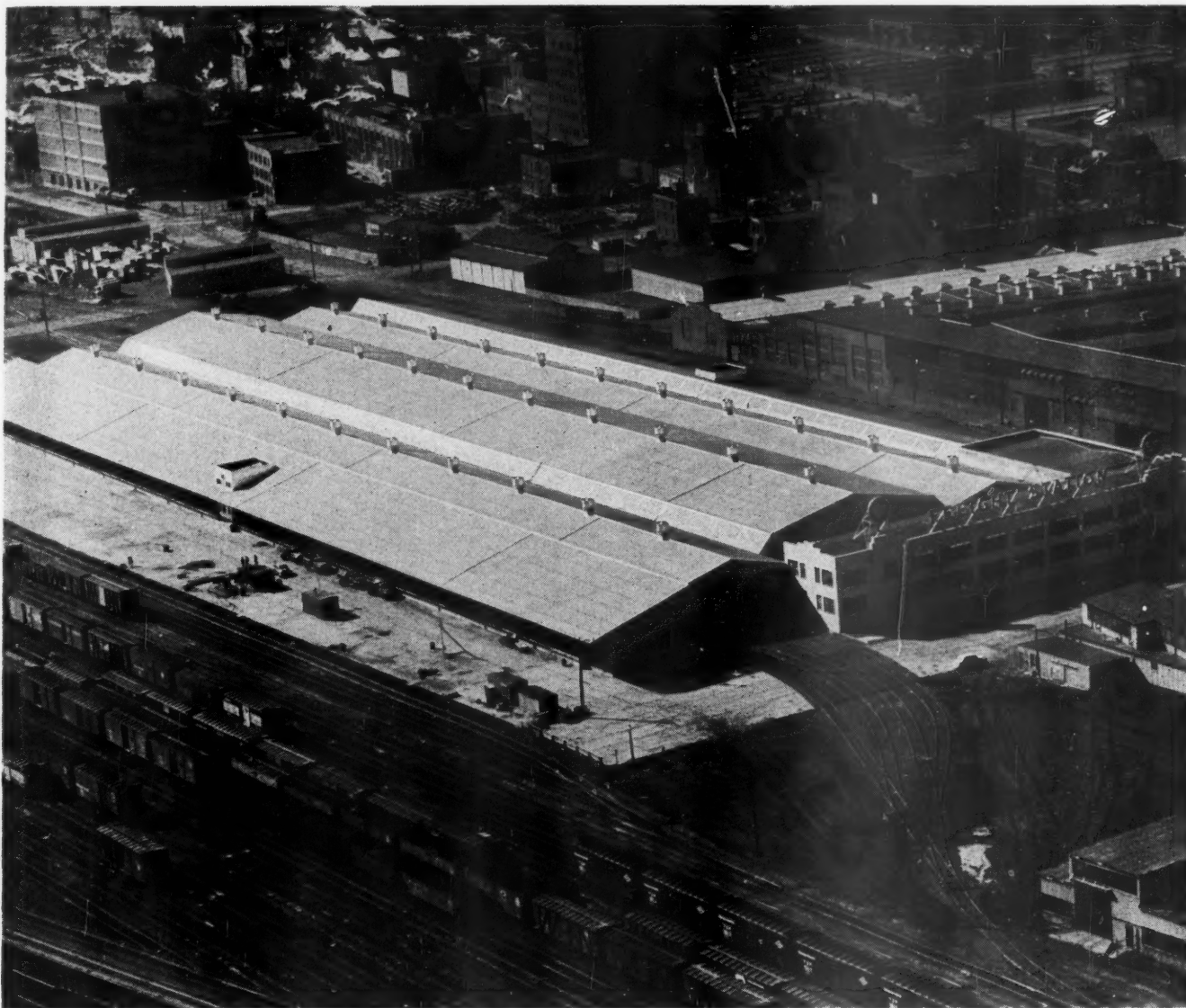
It is interesting to note that, in 1897, the world price of wheat was 99 cents a bushel. Today, the price for wheat destined to countries under the International Wheat Agreement, at lakeshead, established by the Wheat Board for No. 1 Northern wheat, is \$1.90, while the more comparable open export rate, at lakeshead is \$2.40.

The prairie provinces and the terminal port cities have been effective in preserving this openly preferential treatment of the western grain producers. Since the railways must make a large part of their living in these provinces from grain movement, a fixed ceiling on the rates they receive therefor requires the utmost in economy in the use of cars and in the performance of transportation.

The establishment of a so-called "bulk transport controller," under the Emergency Powers Act, by the Dominion government on August 30, 1951 (*Railway Age*, September 10, 1951) with jurisdiction over the rail and water movement of grain, scrap, ore and other heavy commodities, was necessitated chiefly by the pile-up of large stocks of grain carried over from the year before at the lakehead terminals, and consequent immobilization of railroad cars awaiting unloading. Congestion of the terminal elevators was said to be due chiefly to the diversion of lake shipping to the carriage of ore, in preference to grain, in connection with the stockpiling of essential commodities. The new transport controller, Roy W. Milner, is a former member of the Board of Grain Commissioners, and is equipped with wide practical experience in commercial trading. He has the power to give priority to grain, or any other commodity, where necessary, and thus break down bottlenecks of the type now existing on the lakes.



Way up on Hudson Bay, in about the same latitude as Juneau, Alaska, the port of Churchill transships a fair portion of Western Canada's export grain directly into ocean vessels, during an extremely short season of navigation. This port is served exclusively by the C.N.R.



The new freight station as seen from the air. The headhouse, fronting on Miller street, is in the right foreground. Tracks in left foreground are part of Lesperance Street yard

Five Acres Under One Roof . . .

MODERN FREIGHTHOUSE AT ST. LOUIS

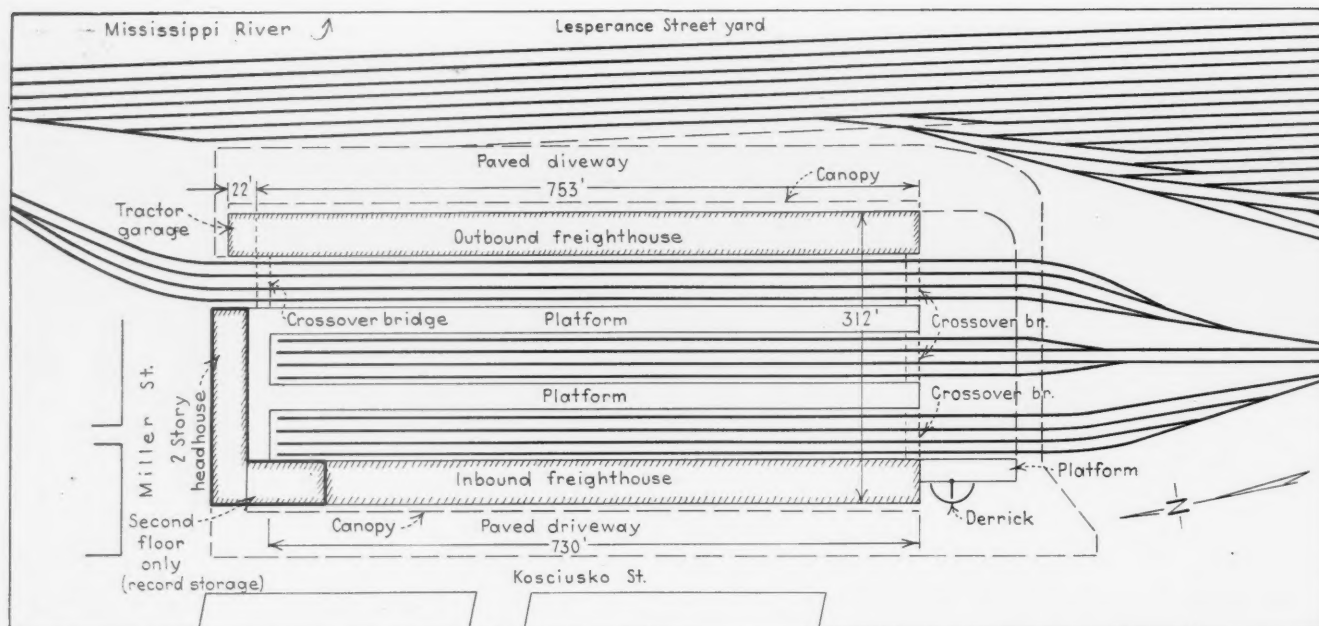
Missouri Pacific constructs consolidated facility to replace two old, outmoded structures, thereby assuring important benefits for itself and its shippers

Shippers of freight on the one hand and railroad engineering officers on the other will both find much to attract their attention in the \$13¼ million freighthouse that the Missouri Pacific has just finished at St. Louis,

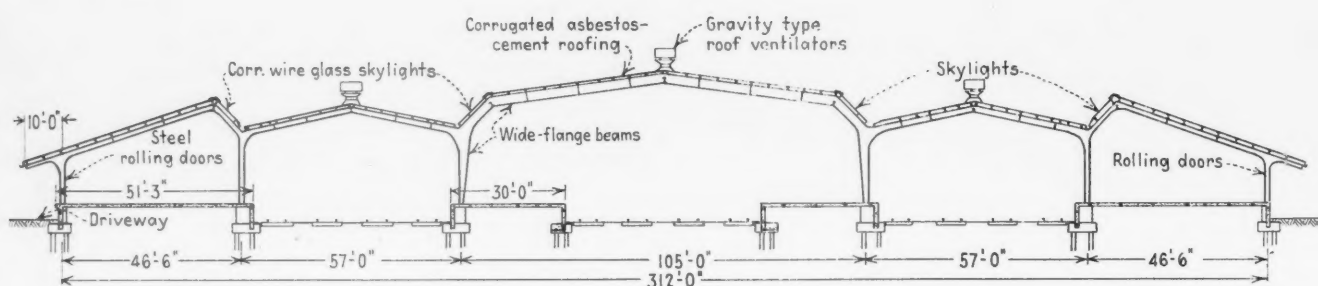
Mo., and which was opened for service on January 2.

Shippers and receivers of freight will welcome the new facility because it will not only expedite the handling of freight by concentrating under one roof the work formerly done at two stations located about a mile apart, but is also expected to result in a material reduction in loss and damage because shipments will be handled fewer times. Also contributing to faster and better service will be the utilization at the new freighthouse of a large assortment of mechanical equipment, and the availability of modern communication facilities.

Railway engineering officers, on the other hand, will



General layout of the freight station, which is in the center of an extensive southside industrial area



Typical cross-section through the freighthouse, showing the rigid-frame construction of the roof-supporting structure

center their interest in the unusual structural characteristics of the new facility. Among these is the fact that the entire warehouse and platform areas, and the tracks serving them, comprising a total of about five acres, are under roof, the openings at the ends for the tracks being enclosed with rolling doors of the type used in airplane hangars.

Among other noteworthy features are the use of the rigid-frame principle in the design of the roof-supporting structure, the use of stud welding in fastening the corrugated Transite roofing and siding to the steel members, and the provision of crossover bridges of a special design, which are retracted under the platforms when it is necessary to clear the tracks to permit cars to be switched. Engineering officers of many other railroads will be particularly interested in the fact that the new facility was built almost in its entirety by the railroad's own forces.

The two existing freighthouses that have been replaced by the new structure are the Gratiot Street and the Poplar Street stations. The first of these is located at Main and Gratiot streets and was built prior to 1888 as the St. Louis freight terminal of the old St. Louis, Iron Mountain & Southern, now part of the Missouri Pacific. Generally speaking, all freight destined to or received from the south and southwest was handled through this facility.

The Poplar Street station at Poplar and Seventh streets was built in 1879 by the Missouri Pacific. All package freight traffic to and from western points was handled through this station.

Serious disadvantages were experienced by the railroad because of the use of the two freighthouses. Although the bulk of the business moving through each of them was destined to or originated on different lines of the railroad, it was not uncommon for shippers to make delivery of shipments for mixed destinations at one of the stations. When this happened the railroad either had to transfer part of the freight by street truck or transfer car to the other station, or, if the quantity of merchandise involved was sufficiently large, a car was loaded for a destination out of the territory normally served by the particular freighthouse. The crosstown transfer of freight between the two freighthouses, which was the method normally employed, was not only expensive but involved delays in dispatching shipments. Another disadvantage of the old freighthouses was that they were both outmoded in design and arrangement and were expensive to operate and maintain.

To overcome the disadvantages inherent in the operation of two separate freighthouses, the railroad decided to consolidate its freight-handling operations at St. Louis in a single modern facility. The site chosen for the new structure is on property already owned by the railroad



Looking south along the four central stub-end tracks between the two transfer or island platforms

and is adjacent to the Missouri Pacific's Lesperance Street yard which extends along the west bank of the Mississippi river. This is the switching yard for freight traffic moving to and from the south and southwest.

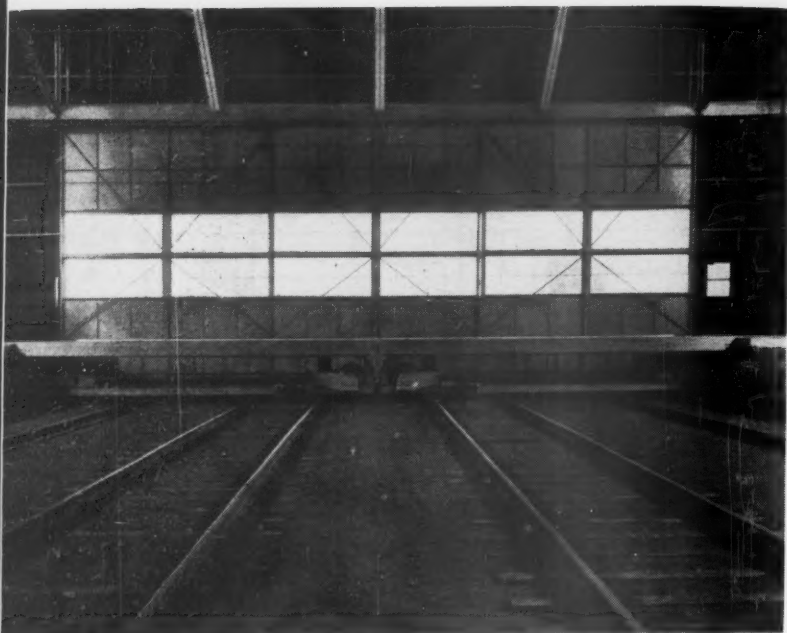
The new freighthouse fronts to the north on Miller street and is flanked on the west by Kosciusko street and on the east by the Lesperance Street yard. Up to a point the arrangement is typical of other modern freighthouses, with a two-story head house fronting on Miller street and with the freighthouses and platforms extending to the south, which are served by tracks that enter the area from that direction. The inbound freighthouse is on the west and the outbound freighthouse is on the east (both are about 51 ft. wide), and in between there are two island transfer platforms each 30 ft. wide. All the platforms are approximately 750 ft. long. They are served by three groups of four tracks each. Two of the track groups are stub end, but the other (and here is where the arrangement deviates from the conventional) extends entirely through the freighthouse. The through tracks are the ones that lie between the outbound freighthouse and the adjacent transfer platform. These tracks extend north of the new freighthouse to a connection leading to the Twelfth-Twenty-Third Street yard, which is the switching yard for freight to and from the west.

The freight-handling platforms of the new station have concrete decks supported on sand fill confined be-

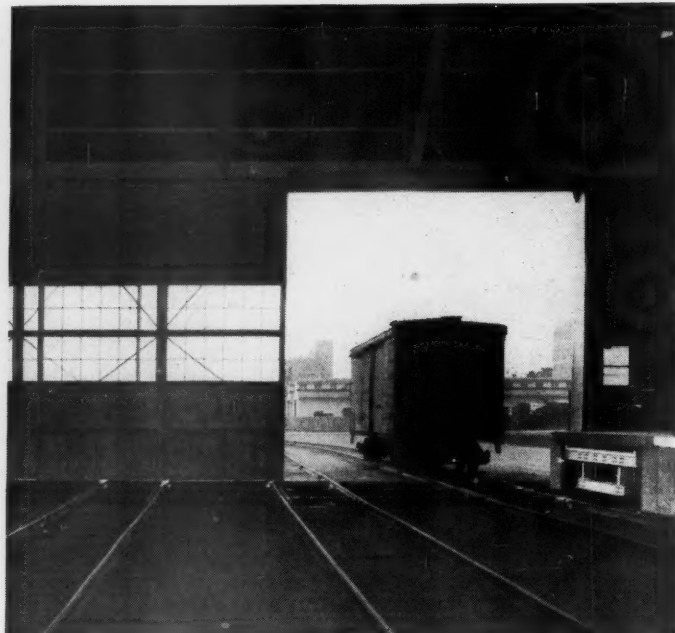
tween concrete retaining walls. The concrete floors were treated with a metallic hardener to increase resistance to wear and to minimize dust formation. The retaining walls are supported on concrete footings founded on creosoted timber piles ranging in length from 35 to 45 ft. Foundations of this type were required because the entire facility is located on fill material placed over an old slough. A total of 1,680 timber piles was required in constructing the footings.

The warehouse portion of the building has a structural-steel frame which, as previously stated, is of rigid frame design, thereby assuring economy in construction and a minimum of column supports to interfere with movements on the platform. The structure is comprised of five longitudinal bays the center one of which, extending over the two transfer platforms and the track group between them, has a clear span of 105 ft. between the supporting columns. The principal load-carrying members of this and other bays, all spaced 22 ft. apart, are designed as rigid frames and consist of wide-flange beams. For the center bay 30-in. 108-lb. beams are used, while 18-inch. 70-lb. beams are employed in the adjacent 57-ft. flanking spans, and 14-in. 61-lb. beams are used in the 46-ft. 6-in. end spans. Except for a limited number of "stitch" rivets the structural steel was fabricated by welding.

The roof and the end walls of the warehouse are



"Roll-away" bridges in the fully extended position between the two island platforms. These bridges are motor operated by push-button control



One of the hangar-type doors, partially rolled back, at the south end of the structure. "Roll-away" bridges are in retracted position under the platforms

covered with corrugated Transite fastened to the steel framing with Nelson stud welds. In the roof over each platform there is a continuous skylight of corrugated wire glass. All flashing and gutters are of stainless steel. For ventilation in the warehouse there are three lines of gravity-type ventilators in the roof.

Along both the inbound and outbound sides of the freighthouse the sidewalls consist of practically continuous lines of steel overhead rolling doors, each of which allows 11 ft. of tailboard space for trucks. There are 127 such doors. Spaced every 200 ft. in each sidewall there is a "crash" door to permit the escape of personnel in case of fire. On both sides of the structure the roof overhangs the tailboard space a distance of 10 ft. to provide protection for truck loading and unloading.

To permit ready maneuverability of trucks ample driveway space is provided on both sides of the structure. the driveway on the west, or inbound, side, being 85 ft. wide and that on the east, or outbound, side, 75 ft.

At the south end of the building are three large openings, one for each group of tracks, and at the north end there is a similar opening. All of these openings are enclosed with rolling hangar-type doors. These doors are all motor operated, with push-button controls.

Artificial lighting in the warehouse and platform area is by suspended incandescent fixtures. In addition, for the illumination of the interiors of cars being loaded and unloaded, extension cords with lights are suspended overhead on reels at intervals of 44 ft. on each platform. To permit instructions to be transmitted from the office to personnel on the platforms with a minimum loss of time, a paging system is provided, which is used in conjunction with telephones spaced at strategic intervals.

Midway of the length of both the inbound and outbound warehouses is a two-level enclosure, in which the first level is devoted to office space, while the upper level has toilet facilities for employees. These enclosures have plaster walls and ceilings, fluorescent lights and gas-fired unit heaters.

A dry-pipe (non-freezing) fire-protection system is provided to serve all parts of the warehouse area. Hose stations are installed at strategic intervals, at each of

which there are push buttons for starting and stopping the fire pumps in a boiler room in the head house. Further protection against fire is provided by twelve 2½-gal. frostproof fire extinguishers on each platform.

Unusual Crossover Bridges

The crossover bridges are one of the most interesting features of the entire layout. These bridges span the track groups at the ends of adjoining platforms. There are four such locations, three at the south end of the facility and one at the north end. These bridges retract under the platforms when it is desired to switch cars over the tracks that would otherwise be obstructed by them. Three of the bridges are single-section units, while the other, which connects the two transfer platforms, was constructed in two sections, each of which retracts under one of the transfer platforms.

Each crossover bridge has a deck 16 ft. wide which consists of inverted T sections filled with concrete. The deck is carried by a structural steel frame on flanged wheels which operate on rails placed transversely with the warehouse tracks. The tracks for the crossover bridges have a gage of 8 ft. 6½ in. and are supported on wood crossties laid on a concrete foundation. The crossover bridges are so constructed that their decks can be lowered as necessary to retract them under the platforms, and then raised to the platform level when they are returned to the operating position.

Each crossover bridge is actuated by two remotely controlled motors, one for hoisting and one for racking. These motors are electrically interlocked, to insure proper operating sequence. Control push button stations and indicating light panels are placed on a column adjacent to the bridge. Where the tracks for the crossover bridges intersect the freighthouse tracks standard bolted A.R.E.A. two-rail frogs are provided. As a protective measure for the crossover bridges a red indicating signal light has been installed on the outside face of end wall over the center line of tracks, which shows a red indication, when the bridge is obstructing the tracks. In addition hand-operated derails have been installed on the ap-



Line-up of part of the large fleet of mechanical freight-handling units with which the freight terminal is equipped; 1,000 wooden pallets have also been provided

proach tracks, which will be controlled (locked or interlocked) by the freight house foreman who will also control the position of the track doors and bridges.

Another interesting feature of the track layout is the special concrete bumpers placed at the ends of the track in the warehouse. In each of these posts the striking plate is backed up by eight double-coil freight-car springs with a recoil of 3 in. With this arrangement it is calculated that the bumpers will stop a loaded car moving at a speed of five miles per hour without being damaged.

The handling of merchandise in the new freight house will be a highly mechanized operation in which dependence for hauling the merchandise will be placed mainly on three-wheel rubber-tired 2,000-lb. platform trucks. There will be 62 such units, including 20 Hysters, 20 Buda Chore Boys, and 22 Kalamazoo's. Other mechanized equipment will include one 6,000-lb. Yale fork-lift truck, ten 4,000-lb. Clark fork-lift trucks, and one 6,000-lb. Krane Kar with an 18-ft. boom for handling bulky shipments. To facilitate the handling of merchandise with fork-lift trucks 1,000 wood pallets have been provided. In addition, at the outer end of the inbound platform is an uncovered concrete platform on which is located a gantry crane for handling shipments that are too heavy or unwieldy to be moved through the freight house in the usual manner. A garage for repairing, servicing and housing the mechanical equipment is provided at the north end of the outbound platform.

Features of Head House

The two-story head house has a reinforced concrete frame and has exterior walls faced with glazed brick of a light cream color, which is backed up with concrete blocks plastered on the interior. The roof over this structure consists of Kaylo slabs covered with three-ply asbestos built-up roofing.

Facilities on the first floor of the head house include a cashier's office, an office for the agent, a salvage room for storing unclaimed merchandise, separate locker and wash rooms for white and colored men, a cooper shop, a freight storage room for perishable merchandise and

a boiler room. The equipment in the boiler room includes a gas-fired steam boiler and a gas-fired hot-water heater with a capacity of 2,700 gal. per hour.

Except for toilet facilities, the space on the second floor of the head house proper consists of a single large general office. In addition, at the second floor level, but extending out over the inbound freight platform, there is a large record storage room in which the floors and roof consist of structural steel encased in concrete. This room, as well as the locker rooms, the salvage room, the cooper shop and the freight storage room, are all heated by steam unit heaters, while all office space is heated by steam convector type units.

All lighting in the head house is of the fluorescent type and all windows, which have projection type sash, are fitted with venetian blinds. Asphalt tile floors are provided in the office areas, while the wash and locker rooms have Hubbelite floors. Walls and ceilings in the head house are plastered throughout.

The project for constructing the consolidated freight house was initiated under the general supervision of R. P. Hart, then chief engineer and now chief operating officer, and was carried to completion under the general direction of his successor, W. H. Hobbs. The plans for the building were prepared under the direct supervision of A. L. Becker, engineer of structures. The track layout was designed under the supervision of W. H. Giles, then engineer of design, and now assistant chief engineer system—construction. F. D. Wells was resident engineer in charge of construction on the ground.

As stated, the facility was constructed in its entirety by the railroad's own forces. The force consisted of six system bridge gangs (under the supervision of J. C. Boston, principal assistant engineer), a number of division bridge and building gangs, and a division extra gang which did track work. The average force engaged on the job consisted of about 200 men. The only major aspects of the work not done by company forces were the fabrication of the structural steel which was done under contract by the Stupp Bros. Bridge & Iron Co., St. Louis, and fabrication of the crossover bridges by the Nichols Engineering Company, Chicago.



The Bieber line joins the Western Pacific's main line at Keddie — at one of the most unusual railroad junctions to be found anywhere — where a new yard had literally to be scraped out of the precipitous sides of the Feather River canyon

Railroad teamwork at its best— BIEBER ROUTE, THE "INSIDE GATEWAY"

Twentieth-anniversary celebration of opening symbolizes cooperation of participating roads in furnishing improved service on country's newest through north-south freight route

Just two years ago, the presidents and principal traffic and operating officers of the Great Northern, the Western Pacific and their southern connection went on a week-long "barnstorming" trip, calling at Tacoma, Seattle, Portland, Klamath Falls, San Francisco and Los Angeles.

The trip had three purposes. One was to publicize and promote the "Inside Gateway," or Bieber, route (see map) among existing and potential shippers of freight. Starting out with a luncheon at Tacoma for interested customers and civic officers, similar informal get-togethers were held at the other stopover points. A total of 1,450 guests were told, in entertaining form, the advantages of using the route. At each point also the party inspected leading local industrial plants.

Another purpose of the trip was to make the officers of each of the three roads familiar with those portions of the route on "the other man's railroad."

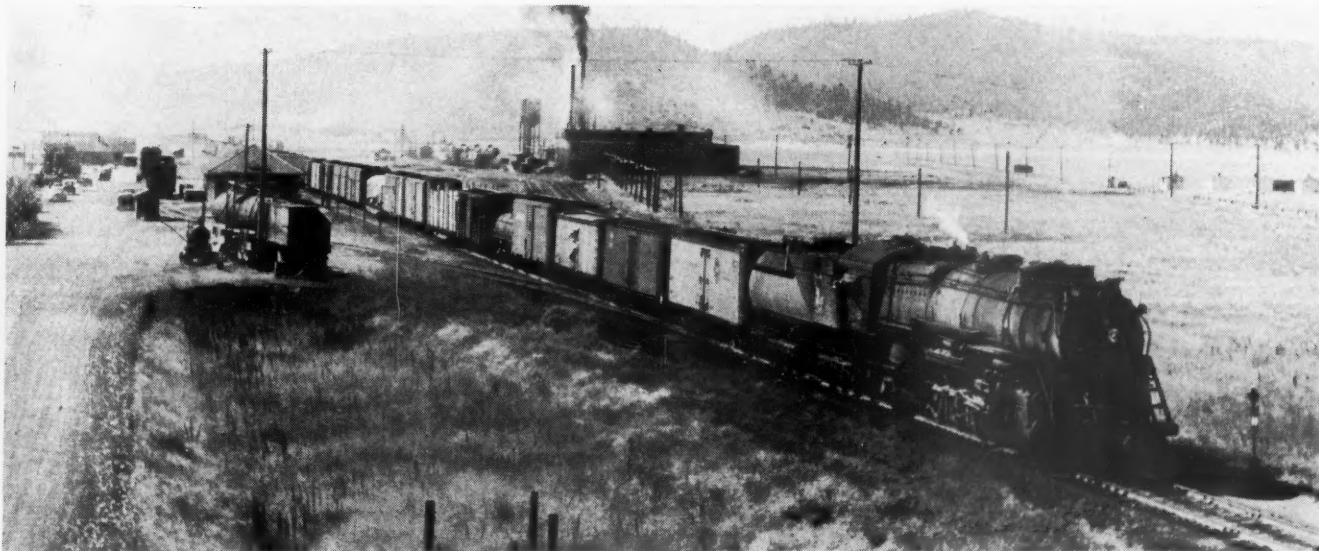
Finally, and most important, the trip became a striking and unusual means by which the officers of three railroads, with widely separated headquarters, could settle, in person, the manifold details of establishing a new, faster, more reliable freight service, over a route from Canada to near the Mexican border. Between the get-togethers with the shippers, the five business cars

in which the tour was made became the locale of separate conferences of departmental officers. In one car, operating men looked over past performance on the route and determined what would be necessary to provide a better service. In another office car, the traffic officers wrote out their prescription for what would be necessary to win business over—especially traffic moving on the highways.

When the separate departmental groups had arrived at tentative conclusions, a joint meeting was held in a G.N. car which would accommodate the whole party, and the "sellers" and "deliverers" got together on a workable plan for presentation to the presidents. As the special passed between Klamath Falls and Bieber, over the link which made the "Inside Gateway" possible, the final plan was set forth, and the presidents gave it their approval, conditioned on the assurance that the new schedules could be met, under normal conditions.

Study in Cooperation

This unusual and striking demonstration of effective cooperation between railroad companies is wholly akin to the spirit in which the Bieber line was constructed and dedicated to the public service. This spirit was symbolized on November 10, 1951, when the Great Northern and the Western Pacific celebrated the 20th anniversary of the driving of the gold spike which joined the rails of the two roads at Bieber, Cal. Most recent of the gold spike ceremonies in the country's history, it opened, in 1931, the country's newest through freight route requiring the building of a new railroad line—with the exception of the shorter Dotsero cut-off opened by the Denver & Rio Grande Western in 1934 to link the Moffat Tunnel with its main trans-Colorado line.



A Great Northern manifest freight leaves the interchange point at Bieber, Cal.

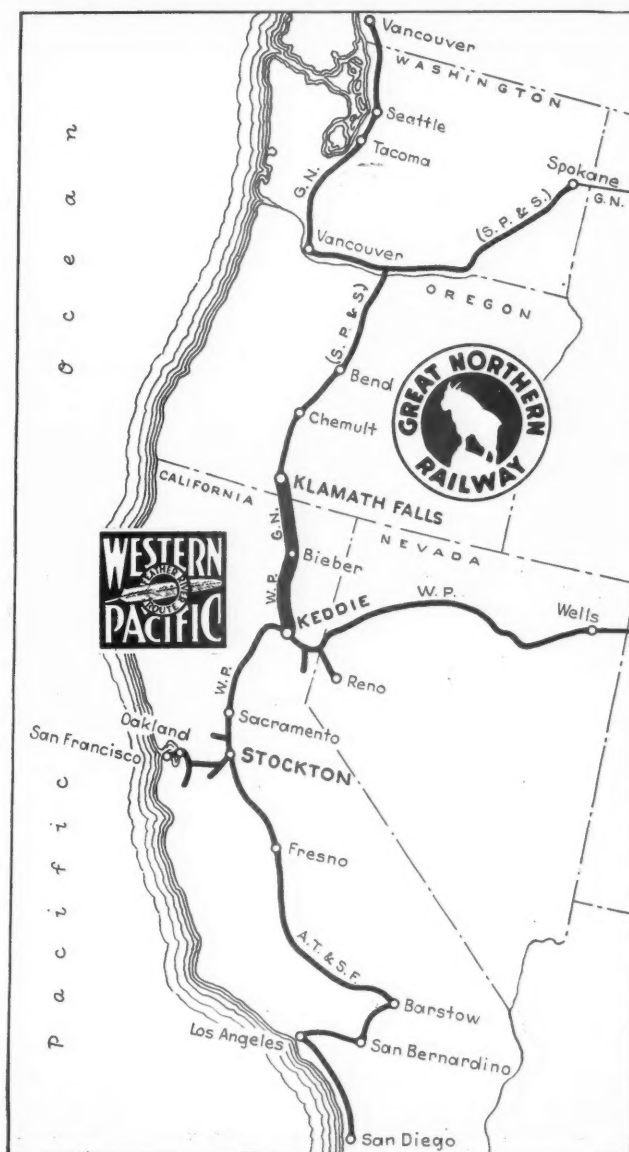
Photo by Fred Matthews, "Trains"

Unlike the Dotsero project, the Bieber line was the joint project of two separate railroads. Each was interested in its own transcontinental route. Though widely separated in distance, they are nevertheless competitive over a broad territory. Construction and subsequent promotion and improvement of the Bieber line have been, therefore, an enterprise calling for the closest kind of cooperation among two railroads which also compete with one another.

The 100-odd representatives of business, the press, cities on the route and the participating railroads who were invited to attend the Bieber line 20th anniversary ceremonies last November were reminded continually of the fact that, as American main-line railroads go, the Bieber line is only a stripling youth. Most of the country through which the 200-mile line passes was practically untapped wilderness 20 years ago. The party of contractors who were taken out to look over the territory before they tendered their bids, had, for example, to be transported in part by horseback and, in some portions, on foot, so undeveloped was the country.

They were reminded also of the fact that the railroad officers who were their hosts were as youthful as the stretch of railroad they celebrated, although they were all active railroaders when it was opened. President John M. Budd of the G.N., for example, was then assistant to the electrical engineer of the road, having recently graduated from Yale University. (He later became superintendent at Klamath Falls, and had the G.N. portion of the Bieber line under his jurisdiction.) President Whitman of the W.P. was a trainmaster on the Burlington. Traffic Vice-President C. E. Finley of the G.N. was a land agent for his road and bought the property for the Klamath Falls terminal. Henry E. Poulterer, his counterpart on the W.P., was then an assistant general freight agent on the Union Pacific. Ira G. Pool, now the G.N.'s operating vice-president, became, in 1932, a few months after the Bieber line was opened, master mechanic at Klamath Falls. H. C. Munson, vice-president and general manager of the W.P., was, in 1931, a division engineer on the Milwaukee.

There lives today, still an active leader in the transportation business, a man who not only was present at the opening of the Bieber line 20 years ago, as president of the G.N., but who, on horseback and by buggy, in the early 1900's, explored much of the territory through



Completion of the Bieber line made possible a new "Inside Gateway Route" running the entire length of the growing Pacific Coast states from Canada to Mexico, as well as furnishing a new direct feeder to the transcontinental routes of the Great Northern and the Western Pacific



On a wintry day in 1931, Arthur Curtiss James, principal backer of the Bieber project, took off his coat, rolled up his sleeves, and drove home a gold spike (above left), joining the new rails of the Western Pacific and Great Northern at



Bieber, Cal. Twenty years later, on November 10, 1951, the joining of the rails was marked with a ceremony (above right) held at the same spot, and, appropriately enough, in the same kind of weather

which it runs, as an engineer for "Empire Builder" James J. Hill, who long desired an extension of the G.N. down into California. This man was responsible, among other things, for locating the Oregon Trunk (operated now by the Spokane, Portland & Seattle) south from Wishram and the new line of the G.N. between Bend and Chemult, without which the Bieber line would not have been possible. His name is Ralph Budd, retired president of the Burlington and now chairman of the Chicago Transit Authority.

Dramatic Beginning

As speakers at the ceremonies recalled, the youthful Bieber line was opened to public service in a time of deep depression. The G.N. had recently spent large sums on its new Cascade tunnel, longest in the country, and on new electrification in its vicinity. Just three years previously, it had completed a new line between Bend and Chemult, which, with trackage rights over the Southern Pacific, gave it access to Klamath Falls. Expensive improvements were necessary to fit this line for the traffic expected from the opening of the Bieber link. The Western Pacific, as the country's newest "transcontinental," was finding the going tough. To complete a brand-new 200-mile railroad, through undeveloped country—mountainous and heavily timbered for the most part—far from big cities and their industrial traffic, called for courage of a high order.

Arthur Curtiss James then was the controlling stockholder, and chairman of the board, of the W.P., and the largest individual stockholder in the G.N. He also owned a large interest in the Southern Pacific, with which the new route would compete most directly. It was he, principally, who pushed through the Bieber project and thereby fulfilled the long-cherished dream of the G.N.'s "Jim" Hill—of establishing another link between California and the Pacific Northwest and the northern transcontinental routes. The calibre of James

is shown by the fact that, immediately after participating in the opening of the seven-mile-long Cascade tunnel in January 1929, he boarded his car to go to San Francisco to begin discussions on the construction of the Bieber line. A large portion of the money expended by the W.P. on the Bieber line was advanced by him personally.

He was, therefore, the logical choice to drive the gold spike—a gift of the Oroville (Cal.) Chamber of Commerce, containing California gold mined in five different ways—panned, placer-mined, from tunnels in ancient river beds, from quartz mines and from dredgers. It is recalled that he declined the honor at first, but accepted when it was made clear to him that his connection with the two railroads made him the man for the job. He cheerfully took off his coat and said, "Let me have the maul and I will hit the spike as often as I can."

Gilbert Kneiss, now assistant to the president of the W.P., who was present as a guest at the ceremony 20 years ago, describes the country's last golden spike ceremony as follows:

"Six trainloads of guests filled the grandstand facing the speakers' platform across the new track where one rail was still missing. It was a chilly afternoon and a few flakes of snow swirled around. There was music and there were speeches by governors, railroad presidents and others. Then the track gang carried the last rail to its place and drove all the spikes but one with their pneumatic hammers.

"Arthur Curtiss James then removed his overcoat and jacket and rolled up his shirt sleeves. His King Edward beard, happy grin and twinkling eyes made him an unforgettable figure as he brandished a silver spike maul and drove the spike home amid thunderous cheers.

"The Inside Gateway was open! Two massive locomotives, W.P. No. 204 and G.N. No. 3351, drew slowly together until Harry M. Adams and Ralph Budd, respective presidents of the two roads, standing on their



At the 1951 reenactment of the original ceremony, President Budd of the Great Northern (center figure in shirt sleeves) won, by a slight margin, over President Whitman of the Western Pacific (foreground) in "an affair of arms" to chal-



lenge the latter's possession of the original gold spike . . . This settled, the two presidents shook hands to symbolize the teamwork which gives west coast shippers a new fast north-south service over the Bieber route

pilots could clasp hands. Then the engines were speedily backed away, for traffic was already waiting to use the new railroad and a 150-car freight train sped south between the grandstand and the speakers' dais.

"What did it matter that the threatening snow then closed in, a bitter wind howled and the crowd tore down the grandstand and built a bonfire to keep comfortable until their special trains backed in? They were happy, though slightly chilly, for they had seen a dream come true and a new railroad born."

Constant Growth

When it gave approval in June 1930, to the building of the Bieber line, the Interstate Commerce Commission weighed carefully the estimated cost of its building (actual cost was \$14.5 millions) against its utility. It concluded:

"Compared with the benefits which will accrue to the people of the Pacific West and Northwest through the establishment of new competitive routes, stimulating the interchange of products, the advantage of a diversified car supply, additional passenger service, and the development of the local territory, the moderate capital expenditure here proposed seems amply justified."

Except for the passenger service, which was never established, the expectations set down by the commission have all been fulfilled, in a measure greater than anticipated even by the proponent railroads. As of the close of 1950, the Bieber line had carried almost one million carloads of freight. In 1950 its traffic was 6½ times greater than that moving over it in 1932. Business over the new line increased steadily, each year, reaching a peak in 1942. Although some decline in traffic occurred after the close of World War II, its level has shown substantial and steady increases since the period of peacetime readjustment. The improved service made effective in January 1950 enabled the route to compete even more vigorously for new business, indicated by the fact that traffic interchanged at Bieber in 1950 was up

8 per cent compared with 1949—despite a switchmen's strike on the two roads in June and July (1950). Business continued to increase during 1951.

The Participants

The "Inside Gateway Route" extends from Vancouver, B. C., Seattle and Spokane, Wash., on the north, to Los Angeles and San Diego, Cal., on the south. The Great Northern is accountable for handling the traffic north of Bieber, although it moves in trains operated by, and over the rails of, the Spokane, Portland & Seattle, between Bend, Ore., and Spokane and Portland, respectively. The S.P. & S., which is owned half by the G.N. and half by the Northern Pacific, moves "Inside Gateway" freight for the account of the G.N. on a flat, per car, contract rate, and not on a division of the through rate, except for freight originating or destined locally on the S.P. & S. outside of Portland and Spokane. The S.P. & S., is, of course, fully responsible, along with the three direct participating roads, for the successful performance of the new service over the route.

The Western Pacific forms that part of the "Inside Gateway Route" from Bieber to Sacramento, Stockton, the San Francisco Bay area and central California generally. It also handles connecting traffic between the East and the Pacific Northwest, via Keddie, Cal., on its main transcontinental line. At Stockton, the Santa Fe makes direct, scheduled connections for traffic to and from southern California.

Character of Route

The route via Bieber comprises a fast through freight route, running just east of the Sierras and Cascades, linking California with the North Pacific Coast on the one hand and with the "Inland Empire" around Spokane on the other. Until the Bieber line was opened, only one north-south railroad served the Pacific Coast area. One of the strongest arguments for building the new route



Improved freight service via the Bieber line, effected just two years ago, was introduced, at gatherings like this, to

shippers at points served by the "Inside Gateway Route," by a joint "barnstorming" party of top railroad officers



The success of the "Inside Gateway Route" depends upon close and frequent contact between the responsible officers of the participating railroads. Traffic Vice-Presidents Finley (left) and Poulterer of the G.N. and W.P., respectively, talk over latest performance figures, at a dinner in connection with the Bieber ceremony

was that military necessity demanded the construction of an additional line, not only to care for the burgeoning traffic produced by war, but also for strategic considerations. The usefulness of the Bieber line in handling World War II's tremendous load demonstrated the soundness of the argument.

While the Bieber route is a competitive north-south artery, the route has also been of great value to the G.N. and W.P. in extending the usefulness of the transcontinental, east-west routes in which they respectively participate. Opening of the Bieber line enabled the G.N. to solicit transcontinental business to and from central and southern California, over a route more intimately linked with its own transcontinental line, and with a substantial broadening of the extent and geographical and commodity range of through rates and diversion and reconsignment privileges. (In 1930, for example, the I.C.C. took notice that, in the territory served by the G.N. and its connections, from Idaho to Minnesota, inclusive, and in southern Canada, the consumption of California perishables was far below the average for the country as a whole.) Similarly, the Bieber route puts the W.P. in a more favorable position to handle business to and from the Pacific Northwest, over its transcontinental route.

The Bieber line, too, has produced a heavy local-originated traffic for the participating roads. The comparatively flat country along the G.N. trackage north

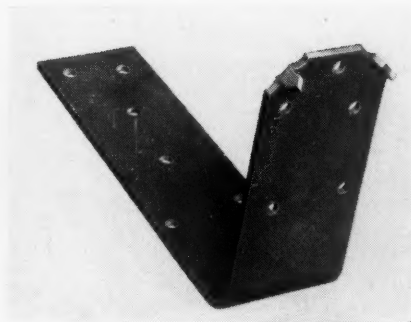
of Bieber has expanded its agricultural production—chiefly potatoes and barley — by leaps and bounds, through irrigation. Large-scale timber cutting and processing operations flank much of the route and originate a heavy traffic for the Bieber line in both directions. The McCloud River railroad, a lumber line, feeds traffic to the Bieber line at Lookout, a few miles north of Bieber. Sawmills at Klamath Falls, at McCloud and at Westwood, Cal., are among the largest in the west. Other large operations are at Tionesta, Bieber and Greenville.

Character of Line

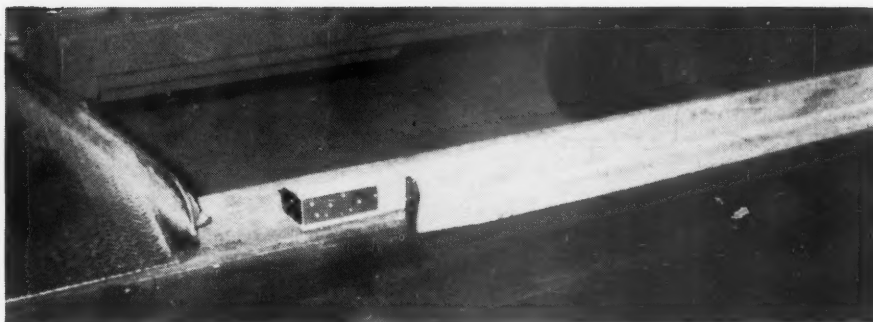
The 200-mile Bieber line proper, between Klamath Falls and Keddie, is an outstanding example of a modern, heavy-duty railroad, built specifically to handle through freight expeditiously in long trains. Money was hard to come by in 1930 and 1931. The schedule for construction called for exceedingly rapid work—in tracklaying, for example, for an average of 8,500 ft. of track per work-day. Nevertheless, nothing was withheld from the new line which would prevent its most efficient exploitation by the most up-to-date operating methods. In the mountainous portions, lots of rock and earth were moved to make easy grades and curves, and, throughout, generous widths in cuts and shoulders on fills were provided for better stability and drainage.

The G.N. portion of the road is 91 miles in length. Its northern half lies in relatively level land, in large part suitable for agriculture, including about 15 miles in the reclaimed bed of old Tule lake. Its southern half passes through gently rolling country—for 10 miles being laid directly on fantastic beds of lava, and the remainder running through pumice flats or through farming lands. In the entire 91 miles, there are only 22 curves, with a maximum curvature of two degrees. There is an aggregate of about 2½ miles of 0.8 per cent grade northbound and a trifle less of 0.8 per cent, southbound. As a whole, grades are 0.3 per cent, or less. The line is well-ballasted and laid with 90-lb. rail. New 115-lb. rail is scheduled to be laid.

The 112-mile W.P. portion of the Bieber line lies in more mountainous country, largely in timber, although some areas in the valleys are suitable for agriculture and pasture. Between Bieber and Keddie there are 253 curves, none of which is in excess of 10 deg. The maximum southbound ascending grade is 1.8 per cent, and northbound, 2.2 per cent, compensated. Originally laid with 85-lb. steel, the W.P. portion was entirely renewed (Continued on page 62)



A close-up of the Peyton spur cleat used by Kellogg



Cleat and 1-in. by 6-in. dunnage are pre-assembled outside the car

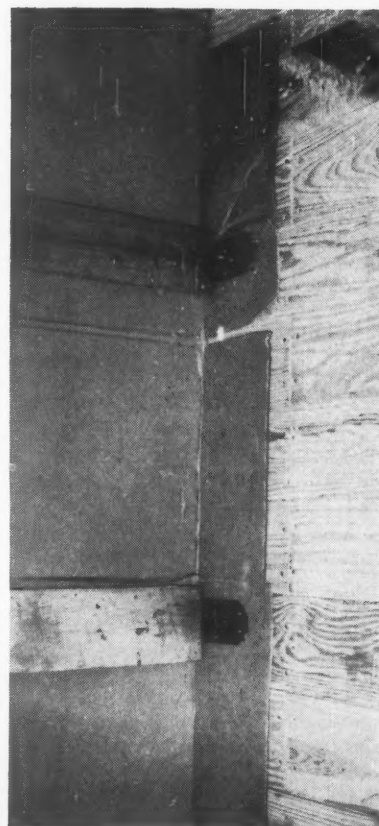
HOW SPUR CLEAT CUTS DAMAGE IN STOP-OFF CARS

Use of device result of suggestion of New York Central loss and damage prevention man

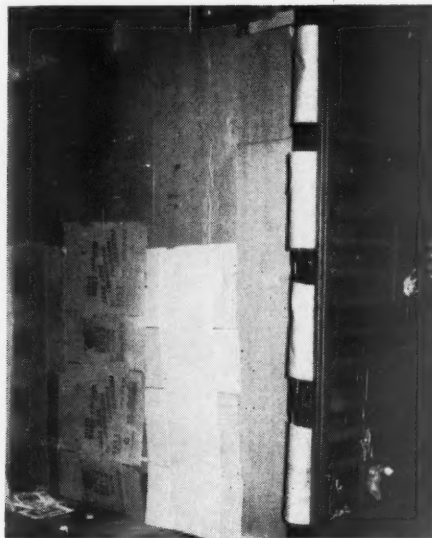
The W. K. Kellogg Company of Battle Creek, Mich., maker of breakfast foods and other products, now is getting stop-off loads of these commodities to destination practically without damage, while at the same time the cost of bracing these loads has been cut by about 75 per cent. These happy results, says L. W. Troutfetter, Kellogg's general traffic manager, followed the company's adoption of a new loading method suggested by a member of the loss and damage prevention bureau of the New York Central. The new load devised by the N.Y.C. man, after many other endeavors to come up with an answer to Kellogg's problem, involves the use of the Peyton spur cleat along with ordinary 1-in. by 6-in. dunnage lumber.

Mr. Troutfetter says that the reason for the success of the N.Y.C. man, where others had failed, was that "all he wanted to do was to stop the damage. He had no axe to grind or product to sell. Therefore, he could come up with the right 'tool' for doing the job. Had he not known of the tool, and it's his job to know that sort of thing, he, like the others, probably would have failed."

The maker of the cleat is the National Dunnage Company, Dallas, Tex.



Above—Bracing as applied to the side wall of the car. Note that paper board is placed between the dunnage and the load, especially where cleats are applied to the dunnage



Far left—Nails used to help hold cleats to dunnage are covered by paper board to avert damage. Paper board covers dunnage and separates stop-off portions of loads

Left—One end of a car loaded and braced and ready to go on its way

What About the Exempt Trucker?

15 Reprints for 1000
Specially written for *Railway Age*

By **H. W. BISHOP**

Traffic Manager, Nash-Finch Company

It is not easy to keep up with all the changes in transportation methods these days. One new development is the trucking of so-called "exempt commodities," which has mushroomed since the close of World War II from a small start up to a large and rapidly expanding business which is now a real threat to all regulated transportation—both railroad and truck.

Many people do not yet fully understand that there is a large movement of "for-hire" traffic in interstate commerce—completely and totally free from any regulation whatever as to rates. It is hard to realize that, after 50 or more years of regulation, the tide has turned and we are back to the days of bargaining and trading between shipper and carrier, free from any restraint as to rates or charges, and under specific sanction of federal law.

The Interstate Commerce Act, Part II, provides an exception, or exemption, from regulation or control by the Interstate Commerce Commission in Section 203-B, paragraph 6, as follows:

"Motor vehicles used in carrying property consisting of ordinary livestock, fish (including shell fish) or agricultural commodities (not including manufactured products thereof), if such motor vehicles are not used in carrying any other property, or passengers for compensation."

This law was passed in 1935 and extended in 1940. But there was not so much use made of the exempting provision until after World War II ended in 1945. Since that time the volume of exempt traffic has increased rapidly.

Big Business

Here are a few representative examples, selected at random:

On April 10, 1951, a total of 518 truckloads of vegetables and 113 truckloads of citrus, were shipped out of Florida—a total of 631—according to a Federal Market News Service Report, as compared to rail shipments on the same day of 143 carloads of vegetables and 166 carloads of citrus. In contrast, the railroad proportion of total shipments of these products from Florida was 93 per cent in 1944-45.

Last year, citrus shipments from the Rio Grande valley of Texas, until they were brought to an abrupt end by a freeze, moved 5,364 carlot equivalents by truck, and 3,073 carloads by rail—or 64 per cent by truck, against 36 per cent by rail.

Another trade organization compiling statistics on fresh fruit and vegetable movements shows receipts in New York city in 1950 as totaling 84,989 rail carloads of fresh fruits and vegetables, while the carload equivalents in truck traffic reached 69,532. Thus, the railroads carried 55 per cent, and the trucks 45 per cent, of the total. Movement by trucks has been steadily increasing. It was 33 per cent in 1946, 34 in 1947, 39 in 1948, 44 in 1949, and 45 in 1950.

The chief business of my own company is the sale and distribution of food products of all kinds to the

When it decided to regulate motor trucks, Congress exempted (except for safety rules) farmers and fishermen. This agricultural exemption has been used since to spawn a vast fleet of unregulated trucks (larger than the number of vehicles under regulation) which move large loads over long distances, in direct competition with regulated railroads and motor carriers.



Serious questions about whether this state of affairs is in the public interest are here raised by the head of the traffic department of one of the oldest and largest wholesale distributors and jobbers of food products and allied lines of merchandise, with branch warehouses in the Midwest and Southwest. Allied with Nash-Finch are affiliated corporations operating producing and marketing facilities throughout the United States and Canada. The company's freight traffic amounts to thousands of carloads and truckloads each year.

It is clear that Mr. Bishop has been in a position to enjoy whatever short-term rate advantages accrue to shippers as a result of the agricultural exemption. All the more reason, therefore, why his evident alarm over the long-term effect of this "escape mechanism" is worth reading.

He points out, by the way, that the law does not prevent railroads themselves from trucking agricultural commodities, with complete exemption from regulation.

The author is not only a big customer of the carriers, but has a life-long interest in railroads for their own sake. He spent his school vacations as a section foreman on the Omaha road (C.&N.W. system); as fireman on a pile-driver on the Chicago & North Western; and as rodman on a surveying crew on the Great Northern. Later he took a full time job with the Milwaukee, as a transitman on its Pacific Coast extension. In 1907 he became a freight tariff compiler for the Minneapolis & St. Louis, and later, the G.N.

Since 1914 he has headed the traffic department of Nash-Finch as an officer and director of the company. Several years ago he headed up the Northwest Shippers Advisory Board, and is now chairman of its executive committee. His many activities with traffic and claims groups include an active interest in the freight tariff research work of the National Industrial Traffic League.

retail grocery trade. We keep records of inbound carloads and inbound truckloads of merchandise to our various branch warehouses. They show that more than a third of our total supplies are now reaching our ware-



The hauling of exempt agricultural commodities is big business and goes far beyond what Congress contemplated when it left farmers and fishermen free from I.C.C. regulations

houses by truck, and that figure is going up all the time—largely because of trucking of exempt commodities, such as fresh fruits and fresh vegetables.

California is the heaviest shipping state for fresh fruits and vegetables. Taking combined inbound and outbound movements, fresh fruits, vegetables, nuts and melons were transported by truck through California border inspection stations, in carload equivalents, as follows:

Yr.	Cars
1946	20,730
1947	27,160
1948	44,242
1949	48,407
1950	63,544

I don't have rail figures at hand at this writing. They are very large. But the above figures show the tremendous volume now moving in and out of California by truck—mostly without any regulation as to rates.

What Is Agricultural?

As may be imagined, there has been difficulty in interpreting the phrase "agricultural commodities, not including manufactured products thereof." The I.C.C. has been wrestling with this problem practically since 1935. Numerous cases have been before it for judgment.

In the latest and most comprehensive effort to define exempt products (known as MC-C-968, decided April 13, 1951), the commission heard representatives of the U.S. Department of Agriculture and a large number of states, agricultural marketing associations, farmer organizations, shippers, and growers, as well as rail and motor carriers. To illustrate the difficulty before the commission, note the following excerpt from its decision:

"There is little doubt but that the Congress intended that the

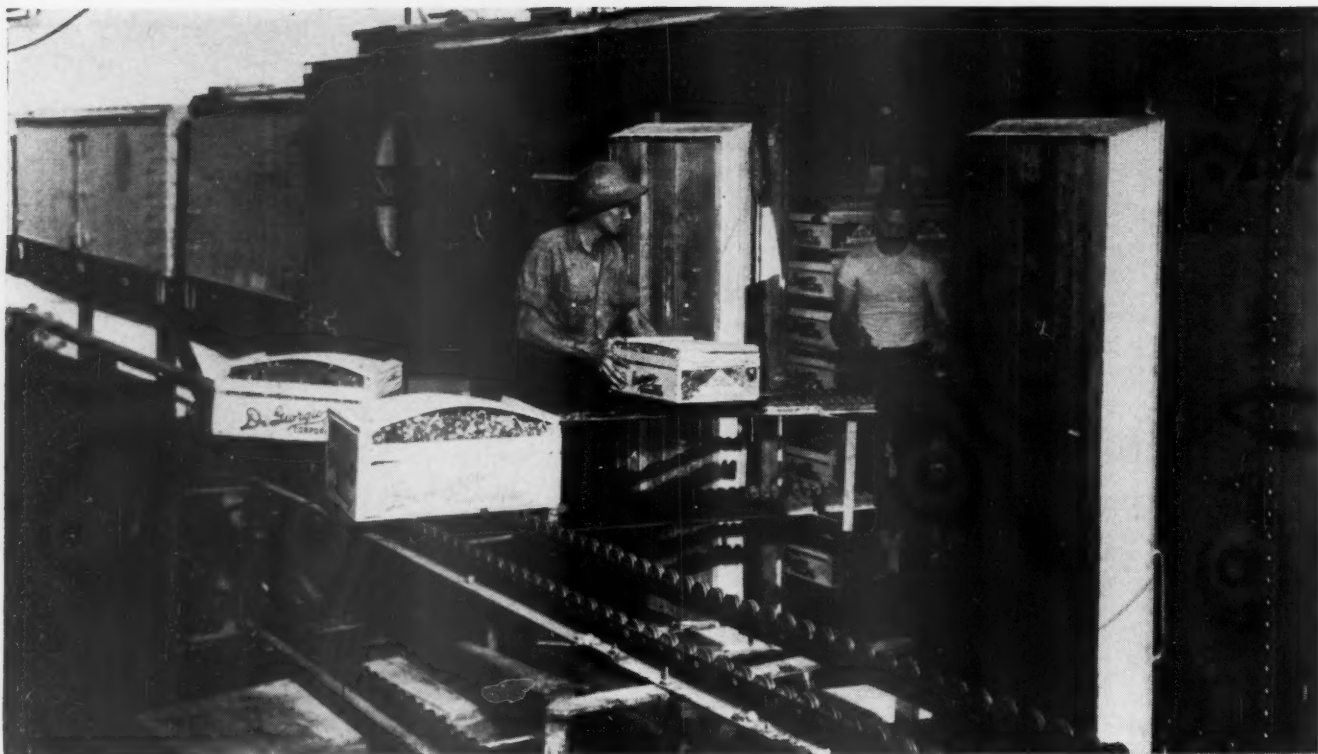
term should be construed in its plain, usual, and commonly accepted sense. The task is not an easy one.

"To arrive at the true meaning of the term, it is necessary to define separately its two component parts, and then use such definitions in combination to make determinations as to the applicability of the partial exemption. Accordingly, we will determine first the scope of the commodities embraced within 'agricultural' commodities, and, second, the basis for ascertaining what constitutes manufactured products of agricultural commodities, giving at the same time further consideration to the 'channel of commerce' principle."

Following the above outline the commission studied the definition of the words "agricultural commodities" and also "manufactured products thereof." In a 77-page report (the decision was far from unanimous—some commissioners dissenting and others concurring only in part) there was set forth a list of exempted traffic, divided into 14 groups of commodities, as follows:

- (1) Fruits, berries, and vegetables which remain in their natural state, including those packaged in bags or other containers, but excluding those placed in hermetically sealed containers, those frozen or quick frozen, and those shelled, sliced, shredded, or chopped up;
- (2) Fruits, berries, and vegetables dried naturally or artificially;
- (3) Seeds, including inoculated seeds, but not seeds prepared for condiment use or those which have been deawned, scarified or otherwise treated for seeding purposes;
- (4) Forage, hay, straw, corn and sorghum fodder, corn cobs, and stover;
- (5) (a) Hops and castor beans;
- (b) Leaf tobacco, but excluding redried tobacco leaf;
- (6) Raw peanuts, and other nuts, unshelled;
- (7) Whole grains, namely, wheat, rye, corn, rice, oats, barley and sorghum grain, not including dehulled rice and oats, or pearled barley;
- (8) (a) Cotton in bales or in the seed;
- (b) Cottonseed and flaxseed;
- (c) Ramie fiber, flax fiber, and hemp fiber;
- (9) Live poultry, namely, chickens, turkeys, ducks, geese, and guineas;
- (10) Milk, cream, and skim milk, including that which has been pasteurized, standardized milk, homogenized milk and cream, vitamin "D" milk, and vitamin "D" skim milk;
- (11) Wool and mohair, excluding cleaned and scoured wool and mohair;
- (12) Eggs, including oiled eggs, but excluding: whole or shelled eggs, frozen or dried eggs, frozen or dried egg yolks, and frozen or dried egg albumen;
- (13) (a) Trees which have been felled and those trimmed, cut to length, peeled or split, but not further processed;
- (b) Crude resin, maple sap, bark, leaves, Spanish moss, and greenery;
- (14) Sugar cane, sugar beets, honey in the comb, and strained honey.

In earlier days the itinerant trucker engaged in merchandising fresh fruits and vegetables. He would buy a load where it was plentiful, and head for the district



The movement of large quantities of foodstuffs, formerly done by rail, frequently is shifted to highway carriers largely because the latter are exempt from rate and route regulations

where he was most apt to sell at a profit. Sometimes he made a lot of money; sometimes he "lost his shirt."

There is still some of that business—but not as much. Even so, it remains tough competition for the regulated carrier—or even for the exempt hauler for hire. Railroads are forbidden by law to engage in merchandising the traffic which they haul, by specific prohibition in the Interstate Commerce Act.

But it is the growing "for hire" trucker of exempt commodities which is a major problem today. It is not surprising that tremendous quantities of this traffic are now flowing back and forth over the highways in ever-increasing quantities. It is no trouble for any enterprising trucker—and there are hundreds of them—to secure a load one way. The problem is to secure a load the other way, either before or after transporting the agricultural traffic. One-way traffic is unprofitable. The pressure to balance the load both ways is imperative and continuous. The search for the other load goes on until it is successful. Many, varied and ingenious are the ways by which it is accomplished.

Thus, the contract trucker who hauls meat or dairy products from midwest packing and processing plants to the Pacific Coast returns with exempt loads of citrus or deciduous fruit or vegetables. He gets these loads either by direct negotiation with shipper or buyer, or he goes to a truck broker to get his return load. These truck brokerage offices have sprung up in several heavy producing areas. They perform a service by getting the shipper or buyer and the trucker together. They also handle cargo insurance for the protection of all.

The large Class I commercial trucker who hauls regulated merchandise sometimes hauls exempt commodities in one direction when he needs that load to balance his trips. Or, when business is dull, he may engage in hauling exempt freight to keep his equipment going.

The trucker who hauls citrus fruit or vegetables north from Texas picks up seed-potatoes or dairy products for his return trip.

(Incidentally, there is nothing in the present law to prevent railroads from engaging in the same business, if they so desire, at any time. They are just as much entitled or authorized to perform exempt trucking as any other person or corporation, and could do so with trucks that they now own, directly or indirectly.)

Trip-Leasing

The man who hauls citrus or vegetables north from Florida may get fish or oysters or other seafood for his return trip. Or he may hire himself and his truck to a commercial hauler and bring back regulated merchandise. In fact, there have been, and still are, truckers accepting regulated merchandise who rely upon exempt haulers, private haulers, or contract haulers to transport their merchandise, either with or without benefit of formal lease. Many times one-way one-trip leases are used. Sometimes the trucker starts under that plan and returns from southern growing districts with a load of exempt fresh fruit or vegetables. He may be a private carrier hauling exempt commodities one way and regulated merchandise the other way by means of lease.

Ex Parte MC 43 is the general truck-leasing case, effective August 1, 1951, in which the I.C.C. has prescribed rules and regulations to cover motor common and contract carriers' practice of using non-owned vehicles under leases. It is the latest and most comprehensive effort by the I.C.C. to reduce or remove some of the loose or objectionable practices or violations of law that have, perhaps inevitably, grown up with the fast moving trucking business. In this case, among other things, the commission has ordered that truck leases shall be in writing, for not less than 30 days time,

and that one copy shall be carried on the truck. However, the commission has given to lessees and haulers of exempt commodities six months additional time in which to comply with this requirement, or until February 1, 1952. If this date is not further extended the hauler of exempt commodities will not be able to continue making one-trip leases on his return trip to Florida, Texas, California, or other producing areas.

The exempt hauler is under no restrictions as to routes, circuitous movement, or stopping in transit to complete loading or partially unload. In spite of this, the speed at which he moves frequently or usually beats his regulated competitor and saves on cost of refrigeration.

He is still subject to I.C.C. safety rules on the highway, but inspectors are few and far between. I remember talking to one driver recently who had just brought north a big load of Florida grapefruit in a handsome large new truck equipped with latest mechanical refrigeration. In commenting on his speed and lack of second man, I asked how he could do it. "Look, Mac," was his answer, "if you had as big a mortgage to pay as I have on this job, you'd drive night and day, too!" He was a full day ahead of the best railroad schedule.

What Was Intended?

Is part regulated, part free, transportation what was intended by the authors of the exempt commodities clause? No one can say positively what the authors meant, but, from an examination of the available records, it does not appear that they intended the situation to develop as it has done. Quoting again from MC-C-968:

"As passed by the Senate on April 17, 1935, Senate bill 1629—which was the bill ultimately enacted as the Motor Carrier Act, 1935 (now Part II of the Interstate Commerce Act)—contained no provision of the nature of the present Section 203(b) (6). The bill as reported to the House of Representatives, however, contained a provision (inserted by the House Committee on Interstate and Foreign Commerce) which exempted from most provisions of the act 'Motor vehicles used exclusively in carrying livestock or unprocessed agricultural products.'

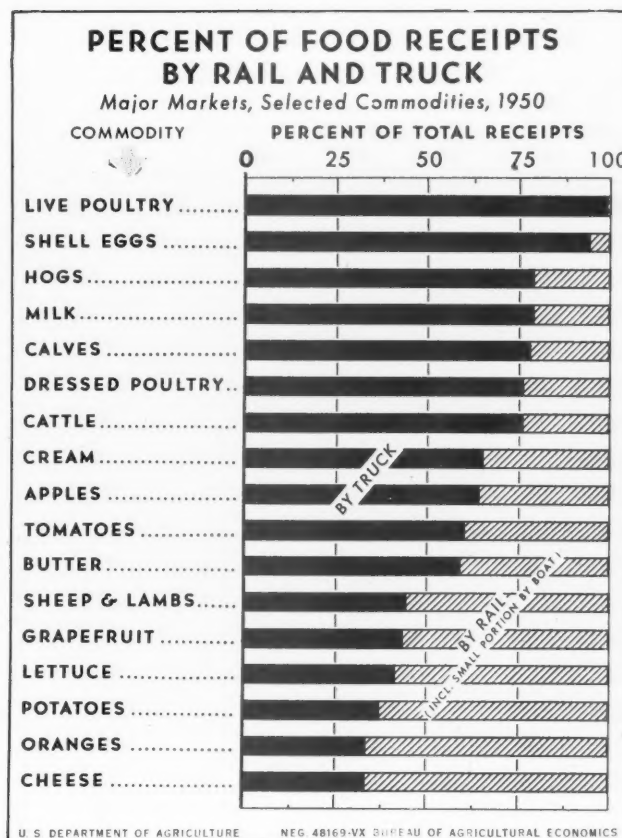
"In response to a question concerning the object of this partial exemption, a committee member replied: 'The object was to help the farmer and keep him out of any regulation whatsoever insofar as handling unprocessed agricultural products or livestock on the farm.'

"The meaning of the term 'unprocessed agricultural products' was the subject of considerable debate on the floor of the House and was explained in part by several members of the House Committee on Interstate and Foreign Commerce. For instance, one committee member stated that the term embraced 'anything that has not been canned or manufactured or processed'; and that it would include cream and milk. He further agreed that the term 'includes all farm commodities produced upon any farm in the raw state ready for market.'

"In order to meet the views of many members of the House, the chairman of the subcommittee in charge of the legislation moved to strike the phrase 'unprocessed agricultural products' and in lieu thereof to substitute the words 'agricultural commodities (not including manufactured products thereof).' He explained the purpose of the proposed amendment as follows: 'Mr. Chairman, we have heard a good deal of discussion this afternoon as to what is a processed agricultural product, whether that would include pasteurized milk or ginned cotton. It was not the intent of the committee that it should include those products. Therefore, to meet the views of many members we thought we would strike out the word unprocessed and make it apply only to manufactured products.'

For better understanding of how for-hire movement of exempt commodities has grown so rapidly, it is necessary to touch briefly upon certain court orders which have served to increase and expand exempt hauling. The last phrase of the exemption clause reads: "If such vehicles are not used in carrying any other property or passengers for compensation."

The I.C.C. originally ruled that, to enjoy exempt haul-



age, a vehicle must not be used for any other purpose. (8MC-C 183-185). However, the U. S. Court of Appeals for the Fifth Circuit rejected this interpretation and ruled, in effect, that the vehicle could be used for exempt hauling in one direction and for other purposes in the other direction—so long as both classes of freight are not on the same truck at the same time (I.C.C. vs. Dunn 166 F 2d 116). Since that decision exempt hauling has grown rapidly all over the country, even though the area covered by the court in the case covers only Texas, Louisiana, Mississippi, Alabama, Georgia and Florida. Apparently, we now have a federal statute which is being interpreted and administered one way in one part of the country and a different way in the balance of the country!

In considering this question, it is helpful to remember that the declaration of National Transportation Policy, which introduces the Interstate Commerce Act, opens with these words: "It is hereby declared to be the national transportation policy of Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this act." Can it be said that the situation we have been discussing is "fair and impartial regulation" when one mode of transportation—namely, the exempt hauler—is entirely free from regulation?

The remedy lies in either one of two directions:

Those carriers presently regulated might be set free to meet unregulated competition. Railroads complain—and with good cause—that they are strictly regulated, tied down and restricted wherever they turn. This control was justified when they had a monopoly of the business. That day, however, has gone forever with the advent of paved highways and modern trucking. There is positively no danger of such monopoly in future, and no need for such meticulous regulation. Let the railroads come forth with a specific program for canceling obso-

lete laws and regulatory rules. The writer will support it, and so will many other shippers. If we are going to continue "exempt" trucking, then both railroads and regulated trucks should be able instantly to meet their unregulated competition wherever or however it exists.

All carriers for hire will have plenty of competition from the private carriers—the man who hauls his own merchandise in his own vehicle. Any action by a for-hire carrier which would raise the cost above the figure at which private haulers can operate will defeat its own purpose. That automatic regulation may be all that is needed.

A yardstick which will approximate that condition under present day costs is about 30 cents a truck-mile. With loaded trucks in both directions, steady business, and no expensive traffic or sales overhead, truck owners make money at that figure. Some of them do right well.

A Second Remedy

The other remedy is to regulate presently exempt carriers. This will also require an act of Congress. Any change will affect the interest of people in many different groups. Exempt carriers will object to any restriction in their present operation. Every month that goes by adds to the weight of this opposition, because more and more people are involved in the business.

On the other side of the fence are the railroads and those regulated truckers who have been hurt by the present situation and will welcome any change that would help them. Practically all the business that is now moving in large volume over the highways by exempt haulers has been taken away from regulated carriers—either trucks or railroads. The latter are, in some cases, used only as the standby carrier. That is, when exempt truckers are not interested, because of low rates or lack of balanced loading, or when the crop is too big for exempt haulers to handle, then the rails are expected to have sufficient cars, refrigeration facilities and service available and ready to take care of the overflow business.

A middle group are the farmers, growers, shippers and receivers of the exempt commodities. They have largely benefited under the new situation, and, with some exceptions, may be expected to resist any change. They are getting faster and better service in most cases than they ever had before and at rates which are seldom higher than the carload freight rate, and are usually less.

True, there is not the liberal diversion feature that prevails by rail, whereby the shipper can play the market for his destination while the car is rolling, selecting the most favorable point before diverting to final destination. On the other hand, the exempt hauler will usually make side-trips that may be prohibited by rail. Also he takes circuitous routes to complete loadings or part unload in transit, which are valuable concessions to the owner and which are available by rail only to a limited extent.

A very much larger group, and one which may not yet be as familiar with the situation, are the shippers and receivers of freight *other* than exempt commodities. If, or when, regulated carriers which have lost substantial segments of business to exempt truckers find it necessary to recoup that loss by raising rates on the traffic remaining to them, this large group of shippers and receivers will probably be found in the line-up of those who are opposed to exempt trucking.

Finally there is that group which we call the public at large, the man who knows, directly, little or nothing about this problem. Where does his interest lie? What is the best thing to do? Should regulation be stripped from the rails? Or should exempt trucking be eliminated or restricted? If so, how? Should the list of presently exempt commodities be increased or reduced? Should

a limit be placed on the distance—say 50 or 100 miles, in order to permit any farmer to reach his nearby market? Beyond that, should unregulated trucking be discontinued?

The general public will have to answer these questions. What will the answer be?

BIEBER ROUTE

(Continued from page 56)

with 110- and 112-lb. rail in 1945 and 1946. The character of the terrain necessitated boring 9 tunnels, ranging from 400 to 1,070 ft. in length, and building of eight major bridge structures, ranging from 150 to 900 ft.

The interchange terminal at Bieber is jointly owned and operated. It provides full servicing and fueling facilities for the steam and diesel locomotives operated by the G.N. and for the diesel power of the W.P. The classification and interchange yard has capacity for 319 cars. Interchange is "complete upon inspection" by a joint car force.

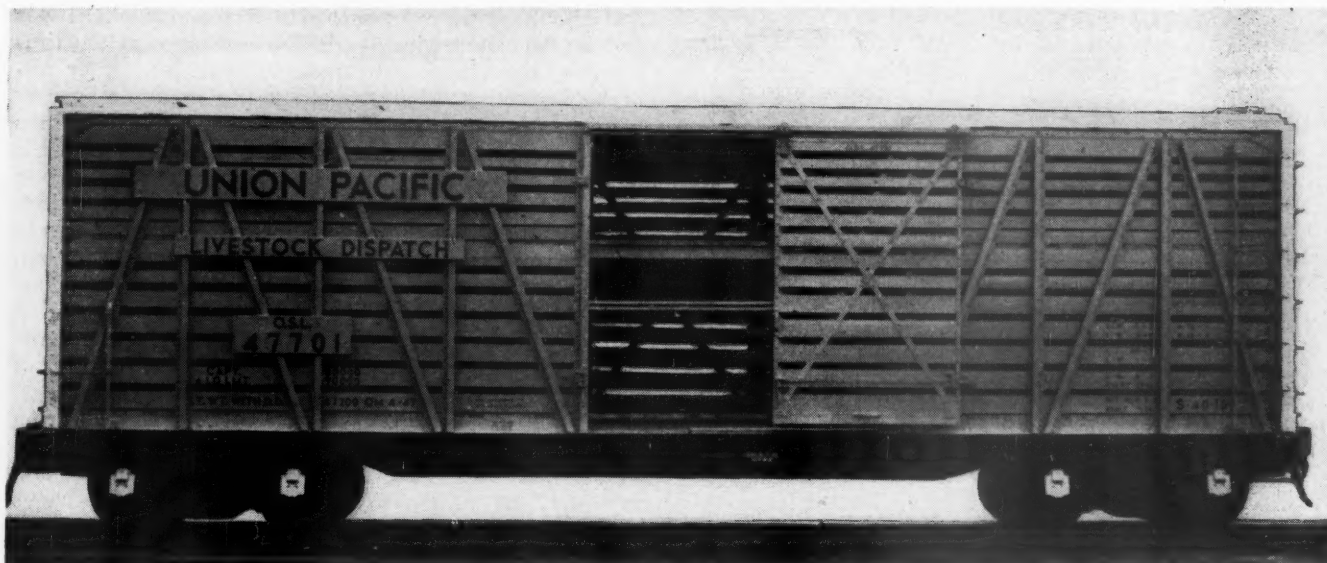
Traffic interchanged between the two roads at Bieber is fairly well balanced by direction—between 8,000 and 9,000 tons daily northbound and between 7,500 and 8,000 tons southbound. To handle the through business, the G.N. operates two symbol freights each way daily, plus an extra in each direction every other day to take care of any accumulation of business. To handle local traffic originating between Bieber and Klamath Falls, it also operates a local freight each way each business day and, during the cutting season, a log train. On its side, the W.P. also operates two symbol freights a day in each direction, plus a local freight each way daily except Sunday.

The two symbol freights operated both ways by the two roads over the Bieber line proper are links in a network of directly connecting scheduled freight runs, serving all main points on the "Inside Gateway Route," from Vancouver to San Diego, for north-south traffic, and provide, in addition, convenient connections with symbol freight trains on the transcontinental routes of the participating railroads.

Two-a-day-for-sure minimum frequency between San Francisco and Los Angeles on the one hand, and Portland, Seattle, and Spokane, on the other, is a prime dish in the new menu of improved service made effective two years ago. The other feature is faster transit time made possible by closer connections between the participating roads, rather than by faster running speeds over the road. Transit time between Los Angeles and Seattle, for example, was shortened by 7 hours and, between the San Francisco Bay area and some points in the northwest by 14 hours.

Under the present schedules for manifest trains, "Inside Gateway" freight leaving Oakland at 9 p.m. arrives in Portland at 6 a.m., in Seattle at 10 p.m. and in Spokane at 9 p.m.—all fourth day. Freight on a symbol train due to leave Los Angeles at 9:45 p.m. makes a fifth day arrival time at the three destinations. To insure performance of these schedules, top level traffic officers of the three roads, during the two years intervening, have held meetings monthly to review the record, diagnose such failures as occurred—or were anticipated—and to take whatever steps were necessary to "tighten up."

Thus has a freight route young in years been kept ultramodern in its service to the shipping public.



Union Pacific 40-ton stock car equipped with Timken roller bearings

If All Freight Cars Had Roller Bearings

... PART II—Cost of Operation and Maintenance of Plain and Roller Bearings—Cost of Applying Roller Bearings—Return on the Investment²⁰

By OSCAR HORGER

Chief Engineer, Railroad Division
Timken Roller Bearing Company

The operating savings are calculated to be adequate to recover the \$871 million additional investment in less than five years

Part I of this article, which appeared in the December 31, 1951, Railway Age, described roller-bearing applications for freight cars and reviewed the present status of standardization of axle journals and bearing housings. Possible reductions in weight and cost of side frames designed specifically for roller bearings were suggested.

The performance of plain bearings was studied in detail. Measures of performance considered were set-offs due to hot boxes, all hot boxes whether set off or not, accidents due to broken journals, all bearing defects, and fire losses caused by overheated bearings. Then an appraisal was undertaken of the prospective performance of roller bearings if all freight cars were equipped with them.

²⁰ This is Part II of a two-part condensation of an "Economic Study of Roller Bearings on Freight Cars" presented at a railroad session during the annual meeting of the American Society of Mechanical Engineers at Atlantic City, N. J., on November 28, 1951.

Our economic study of costs of operation and maintenance was based on a one-year period of operation between July 1950 and June 1951 for which the Association of American Railroads reported a total of 34,719,916,640 car-miles and 193,758 cars set off between division terminals. Detail studies now being conducted by a responsible engineering organization have provided some maintenance and operating statistics regarding the plain bearing on two Class I railroads operating in different regions of the United States. These data, along with other experiences, were resolved into costs per 1,000 car-miles incorporating prices given in the A.A.R. interchange code of rules. Such costs were then applied here to the yearly mileage of all Class I railroads. In doing this, it is recognized that the costs found on two railroads, operating only about six per cent of the loaded and empty freight car mileage for the country, or from other individual sources, may result in values higher or lower than the actual national average. The type of information needed in this analysis is not obtainable from the usual reports rendered by railroads so that it was necessary to use accessible data in this progress report until more is available.

Table 2 shows the costs of plain bearing hot boxes and service failures whereas similar data for roller bearings is given in Table 3. A summarized comparison statement of operating and maintenance costs for both

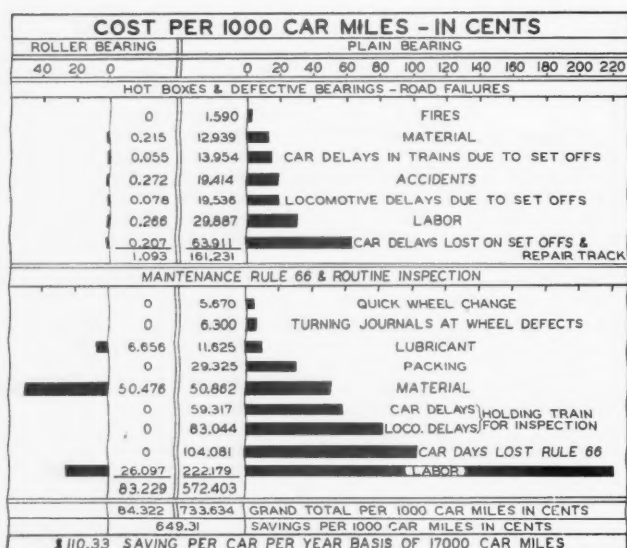


Fig. 11—Cost comparison and savings of roller bearings over plain bearings on all freight cars of Class I railroads

types of bearings appears in Fig. 11. Calculations supporting the above tabular data are detailed in an appendix (not included in this article).

Railroad operating personnel in criticizing the plain bearing frequently cite the poor hot-box performance record and the number of cars which must be set off between division terminals. As shown in Fig. 11, these costs are \$1.61 per 1,000 car-miles, or only about 22 per cent of \$7.34 found for overall costs of maintenance and operation of the plain bearing. Perhaps little objection has been raised to the remaining 78 per cent portion because of the accepted and routine nature of the maintenance work involved and, what is possibly more important, this expense does not present the spectacular interference with road operation. So that while service failures cause concern but only cost 22 per cent of the total expense, the preventive maintenance costs are actually still a more serious proportion, or 78 per cent.

\$6.49 per 1,000 Car-Miles

A saving of \$6.49 per 1,000 car-miles is obtained (Fig. 11) for roller bearings over plain bearings, or \$110.33 per car per year for an average annual mileage of 17,000 miles. About 36 per cent of this saving is in labor, 7 per cent in material, 16 per cent in locomotive-hours and nearly 37 per cent in car-days. Here a locomotive-hour value of \$35 and an average revenue earning capacity of a car of \$10 is used.²¹

Because of the locomotive-hours and freight-car-days saved by roller bearings, the same traffic could be handled with 117 less locomotives and 22,933 less freight cars, representing an aggregate capitalization of \$150,065,000. In his discussion of the railroad industry, Budd²² cited the hot box as being the most serious of purely mechanical problems of railway operation and termed the resulting loss of car days as "appalling" even though he admitted no statistics were available.

In the case of the roller bearing (Fig. 11) about 31 per cent of the operation and maintenance cost is labor

and about 68 per cent material. Practically all of this cost is associated with bearing maintenance at the time the car is on the repair track for wheel work or air-brake inspection. There should be no need for bearing maintenance at other times except for service failures recognized in Fig. 11. Mention should be made that the labor item of \$2.22 per 1,000 car-miles for plain-bearing cars in Fig. 11 only includes the oilers who perform work on the plain bearing that would not be required on the roller bearing at the time of train inspection. It is recognized that mechanical inspection must be made of the train regardless of the type of journal bearing used. An inspector would continue to walk along the train and feel each journal box with either type of bearing.

The quick-wheel-change feature of the roller-bearing truck is only shown evaluated on the basis of one half of the cars having this feature²³ (Fig. 4). The remaining one half of the cars would have roller bearings applied in the integral-box type of side frame (Fig. 1).

Cost of Applying Roller Bearings

The cost of applying roller bearings on a new car or converting an existing 50-ton car are given in Table 4, along with the credits for the omission of plain bearings. It is not known what charge the car builders would make for the roller-bearing application so these costs are based on the work being done in a railroad shop. The usual railroad practice can be applied here of adding 60 per cent overhead on direct machining and assembly labor plus stores expense on material purchased. This 60 per cent includes 35 per cent for shop overhead, 10 per cent stores expense, and 15 per cent for pensions, vacations, etc. Furthermore, the price shown for the roller bearings and journal box parts of \$550 is based on quantity-production lots not realized at this time, whereas the limited quantities currently purchased are at charges considerably in excess of this figure.

It is apparent from Table 4 that the increased cost in applying roller bearings on a new car is \$413.10 while the conversion of existing cars is \$535.92, representing a difference of \$122.80. On the side frame, one item of \$21.02 is for burning-out a portion of the journal box on the integral box side frame and the other, a credit of \$72.20 for the jaw type frame as compared with the integral box. The price schedule for conversion cars was based on using a worn plain-bearing axle which requires cutting off each end of the axle and recentering for a cost of \$9.28 per car set. In the case of the new car, it was considered that a rough-turned axle forging would be purchased which it is expected will be \$10.16 less per car set than for plain-bearing axles. In view of these axle charges, the railroad would find it advantageous to save both items of \$9.28 and \$10.16 by purchasing new rough-turned axle forgings for roller bearings up to the quantity of new plain-bearing axles usually procured for maintenance and then continue the second hand plain-bearing axle, removed from the conversion car, in service under other plain-bearing cars. A similar procedure could be followed on the side frames to save both the \$21.02 and \$72.20 items by purchasing new frames for roller bearings up to the quantity of new plain-bearing integral-box frames usually procured for maintenance purposes.

Table 4 gives \$413.10 as the additional cost for roller bearing application over a plain bearing on a 50-ton

²¹ The \$1.75 per diem for freight cars does not reflect the actual economic value, but if this value was substituted in this analysis for the \$10 used, then the savings would be \$4.50 per 1,000 car miles or \$76.50 per year instead of the figures given in Fig. 11.

²² Address by John M. Budd before the Coordinated Railway Association, Railway Purchases and Stores, October 1951, p. 86-89.

²³ Only one half of the cars were considered here to be so equipped because roughly one half the cars are over 20 years old and when replaced could be made to Fig. 4; otherwise, integral-box side frames (Fig. 1) on cars under 20 years old would be used.

car. For a 40-ton car this would be about \$27 less and for a 70-ton car, about \$40 more.

Facilities for Roller Bearings

Roller bearings will require inspection and maintenance comparable to that given other types of high-grade mechanical equipment already being serviced by the railroads. Roller-bearing work will be handled at centralized shops as contrasted with the many outlying points maintaining plain bearings. The extensive supporting facilities ordinarily required for plain bearings will not be required and it will be possible to eliminate many of these facilities so as to reduce the annual maintenance and depreciation charges.

To insure maximum performance of the roller bearing, inspection could be made in centralized wheel shops at the same time that the axle assembly is in the shop for wheel renewal. The journal-box assembly is pressed off with the wheel so no special tools are necessary. Grease

guns will also be required at repair tracks for lubrication of the journal boxes while the car is being given periodic 36-month air-brake inspection.

The elimination of cut journals would greatly reduce the handling, storage, repair track, and shop facilities now provided for plain bearings. There would be no need for maintenance of many existing facilities concerned with lubrication of the plain bearing such as reclamation plants for packing, distribution of this packing over the railroad, and bulk oil storage accommodations.

There are hundreds of mounted journal lathes at various outlying points on all Class I railroads serving only one purpose which is to turn out journals on plain bearing axles. Many of these machines are worn out, obsolete and should be retired. With roller bearings, such lathes would have no utility and both the equipment and supporting facilities could be eliminated.

Furthermore, there are hundreds of these lathes operating at outlying points which do not have equipment for

Table 2—Total Costs on Plain Bearing Hot Boxes and Defective Bearings—Service Failures*

	All costs in dollars unless otherwise shown						
	Cut journal 1st axle	2nd axle same car	Rebrass to repair track	R. & R. to repair track	Road rebrass	Rebrass	Total
Hot boxes on cars set off:							
Number of cases in year	133,800	6,800	13,600	17,400	29,000	.....	193,800
Locomotive and car delays—costs:							
1. Locomotive delays due to set offs	4,683,000	.....	476,000	609,000	1,015,000	.....	6,783,000
2. Car delays in train due to set offs	3,345,000	.....	340,000	435,000	725,000	.....	4,845,000
3. Car delays lost on set offs and repair track	5,352,000	.....	544,000	696,000	580,000	.....	7,172,000
4. Total delays (1+2+3)	13,380,000	.....	1,360,000	1,740,000	2,320,000	.....	18,800,000
Labor costs:							
5. At point of set off	2,221,080	.....	225,760	288,840	481,400	.....	3,217,080
6. At repair track	2,107,350	68,544	21,420	27,405	.....	.....	2,224,719
7. Total labor (5+6)	4,328,430	68,544	247,180	316,245	481,400	.....	5,441,796
8. Material	1,283,543	60,472	71,985	67,129	101,732	.....	1,584,861
9. Total labor and material (7+8)	5,611,973	129,016	319,165	383,374	583,132	.....	7,026,660
10. Total costs (4+9)	18,991,973	129,016	1,679,165	2,123,374	2,903,132	.....	25,836,660
11. Average cost per case	141.94	18.97	123.47	122.03	100.11	.....	133.26
12. Cost per 1,000 car miles—cents	54.700	0.372	4.836	6.116	8.362	.....	74.386
Hot boxes and defective bearings other than set offs:							
Number of cases	285,400	10,000	.....	.....	166,900	48,300	500,600
13. Car delays lost at repair track—costs	8,562,000	.....	.....	.....	5,007,000	1,449,000	15,018,000
14. Labor costs	4,495,050	100,800	.....	.....	262,867	76,072	4,934,789
15. Material costs	2,146,208	68,200	.....	.....	537,418	155,526	2,907,352
16. Total labor and material (14+15)	6,641,258	169,000	.....	.....	800,285	231,598	7,842,141
17. Total costs (13+16)	15,203,258	169,000	.....	.....	5,807,285	1,680,598	22,860,141
18. Average cost per case	53.27	16.90	.....	.....	34.79	34.79	45.66
19. Cost per 1,000 car miles—cents	43.788	0.487	.....	.....	16.726	4.840	65.841
20. Accidents (Appendix Item 15)	.....	.....	.....	.....	.....	.....	6,740,525
21. Fires (Appendix Item 16)	.....	.....	.....	.....	.....	.....	552,047
22. Grand total costs for service failures only excluding cost of scrapped axles and switching costs (10+17+20+21)	.....	.....	.....	.....	.....	.....	55,979,373
23. Grand average cost per 1,000 car miles—cents	.....	.....	.....	.....	.....	.....	161.23
24. Grand average cost per case—dollars	.....	.....	.....	.....	.....	.....	288.85

*Excluding cost of axles scrapped because of cracked or worn journals and switching costs.

Above costs obtained by multiplying number of cases by unit cost; unit costs given in appendix (not reproduced here).

Table 3—Number and Costs of Roller Bearing Hot Boxes and Defective Bearings—Service Failures*

	Total costs in dollars				Costs per 1,000 car miles in cents			
	Road change	Set offs to repair track	Other than set offs	Total	Road change	Set offs to repair track	Other than set offs	Total
Number of cases in year	260	510	1,545	2,315	260	510	1,545	2,315
Cost of locomotive and car delays:								
1. Locomotive delays due to set offs	9,100	17,850	.....	26,950	0.026	0.051	.....	0.077
2. Car delays in train due to set offs	6,500	12,750	.....	19,250	0.019	0.037	.....	0.056
3. Car delays lost on set offs and repair track	5,200	20,400	46,350	71,950	0.015	0.059	0.133	0.207
4. Total delays (1+2+3)	20,800	51,000	46,350	118,150	0.060	0.147	0.133	0.340
Labor costs:								
5. At point of set off	20,696	8,466	.....	29,162	0.060	0.024	.....	0.084
6. At repair track	4,914	19,404	38,934	63,252	0.014	0.056	0.112	0.182
7. Total labor (5+6)	25,610	27,870	38,934	92,414	0.074	0.080	0.112	0.266
Material costs:								
8. At point of set off	8,388	.....	.....	8,388	0.024	.....	.....	0.024
9. At repair track	.....	16,453	49,842	66,295	.....	0.047	0.144	0.191
10. Total material (8+9)	8,388	16,453	49,842	74,683	0.024	0.047	0.144	0.215
11. Total labor and material (7+10)	33,998	44,323	88,776	167,097	0.098	0.127	0.256	0.481
12. Total costs (4+11)	54,798	95,323	135,126	285,247	.....	.....	.....	.....
13. Average cost per case	210.76	186.91	87.46	123.22	0.158	0.274	0.389	0.821
14. Accidents (Appendix Item 15)	.....	.....	.....	94,367	.....	.....	.....	0.272
15. Grand total costs for service failures only (12+14)	.....	.....	.....	379,614	.....	.....	.....	.....
16. Grand average cost per case	.....	.....	.....	163.98	.....	.....	.....	1.093

*Excluding costs of defective axle and switching costs.

Above costs obtained as shown in footnotes under Table II.

TABLE 4—COST OF ROLLER BEARINGS APPLIED TO A 50-TON FREIGHT CAR, THE RAILROAD DOING THE WORK IN ITS OWN SHOP

Item	Cost per car set—dollars	
	Covering existing cars using worn axle and side frames (Fig. 1)	New cars using new axle forging and new side frames (Fig. 4)
Charges For Roller Bearing Application		
1. Roller bearing journal boxes and all mounting parts	\$550.00 (Based on production lots not yet attained)	
2. Additional machining cost of roller bearing axle	21.44	12.16
3. Journal box assembly, pressing on axles and lubrication	22.40	22.40
4. Grease	3.60	3.60
5. Burning-out integral box side frame	21.02	
6. Total (1-5)	618.46	588.16
Credits For Omission Plain Bearings		
7. Rough turned axle		10.16
8. Side frame (Fig. 4)		72.20
9. Split bushings and wear plates on journal box hinge lug		6.60
10. Eight journal bearings (AAR Rule 101, Item 162-D)	56.00	56.00
11. Eight wedges	16.00	16.00
12. Eight dust guards	1.36	1.36
13. Eight dust guard plugs	0.80	0.80
14. Eighty lb. packing	2.80	2.80
15. Eight packing retainers	4.16	4.16
16. Eight lids	17.20	17.20
17. Packing boxes	2.29	2.29
18. Total (7-17)	100.61	189.57
19. Stores expense	18.07	14.51
20. Application cost rollers bearings over plain bearings (6-18-19)	535.92	413.10

Item 3: 8 man hrs. at \$1.75 plus 60 per cent overhead.
Item 4: 20 lb. at 18 cents per lb.
Item 5: 5½ man hrs. at \$1.95 plus 60 per cent overhead, plus \$4.42 for gas.
Item 19: 4 per cent (550.00 — 100.61 + 2.29) = 18.07; 4 per cent (550.00 — 189.57 + 2.29) = 14.51.
No shipping charges included.

making the required magnetic particle inspection of plain bearing journals. With the use of roller bearings there would be no need for this magnetic equipment at outlying points, but only in centralized shops where efficient inspection methods could be better maintained.

The scope of this report does not permit a detail survey of the costs and credits involved in providing new facilities and abolishing existing ones. It is believed that roller bearings would greatly reduce present expenditures and ultimate investment in facilities.

Investment

An estimate was made as to the capital investment required to apply roller bearings on all freight cars,

Table 5. It was assumed that one half of all the cars were roller-bearing equipped when the cars were built and the other one half of the total cars were converted from plain bearings to roller bearings. The unit cost shown in Table 5 were taken from Table 4 with an amount added to take cars of estimated shipping charges.

After four per cent interest is charged on the net capital investment of \$871,416,500, a 21.87 per cent return is obtained. At this rate, the initial investment would be recovered in 4.57 years.

Depreciation charges were acknowledged in the costs of maintenance by replacing three per cent of the bearings at the time of wheel renewal as would be indicated at time of bearing inspection. An additional charge of \$5.00 per journal box for replacement of other parts at this same time was also calculated.

Other items not recognized in this analysis will modify the above values. Such factors as inventory adjustments, insurance, taxes, and possible income tax deductions for sudden abolishment of maintenance facilities are beyond the scope of this report and can better be determined by the railroads.

Other Advantages of Roller Bearings

A dollar appraisal cannot readily be placed on all the merits of roller bearings. Some of these advantages, not already so evaluated, are briefly enumerated below:

1. Little shipper dissatisfaction through car delays because of loaded cars set off for hot boxes or delay to other trains.

2. Roller bearings permit faster train acceleration and higher maximum train speeds and are unaffected by extreme cold or hot weather.

3. Large reduction in the number of train stops and delays on the road and in terminals for bearing conditions, which will allow better train schedule operation and train meets.

4. Reduced lading and car damage due to free slack action in the car couplings.

5. Outlying maintenance points made obsolete and wheel and axle shops centralized.

6. Reduced switching costs of cars to the repair track for plain-bearing journal work.

7. More uniform operation of roller bearing cars in classification and hump yards because the frictional characteristics are more uniform under temperature and loading variables.

Table 5—Estimated Investment for Roller Bearings on All Freight Cars of Class I Railroads

		Capacity car—tons			Total
		40	50	70	
Number of cars		200,000	1,407,000	400,000	2,007,000
Existing cars converted in railroad or private line shops	Number cars	100,000	680,500(a)	200,000	980,500
	Cost per car, dollars	516	543	585	
	Total cost, dollars	51,600,000	369,511,500	117,000,000	538,111,500
New cars built in railroad and private line shops (b)	Number cars	30,000	211,000	60,000	301,000
	Cost per car, dollars	393	420	462	
	Total cost, dollars	11,790,000	88,620,000	27,720,000	128,130,000
New cars built at car builders shops (c)	Number cars	70,000	492,500	140,000	702,500
	Cost per car, dollars	473	500	542	
	Total cost, dollars	33,110,000	246,250,000	75,880,000	355,240,000
Grand total cost, dollars		96,500,000	704,381,500	220,600,000	1,021,481,500
Reduced capitalization for: 23,000 cars				114,965,000	
117 locomotives				35,100,000	150,065,000
Net increased capitalization					\$871,416,500
Annual savings (d)				(6.4931 × 34,719,917)	\$225,439,891
4 percent interest					34,856,660
Net annual savings					\$190,583,231
Return on investment after interest, percent					21.87
Number of years required to recover initial investment					4.57

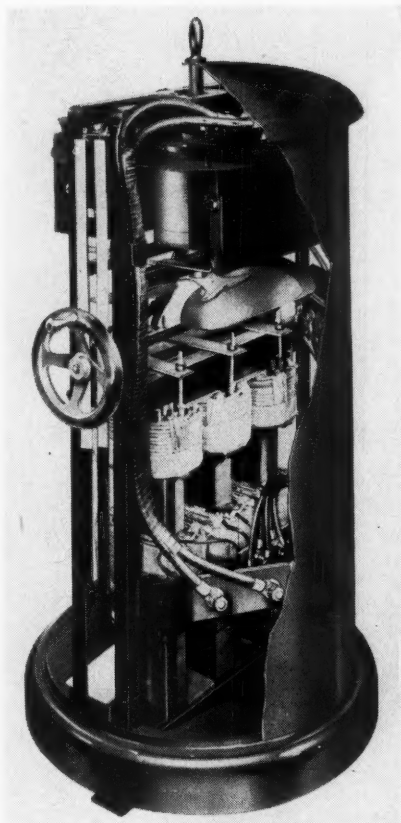
(a) This figure includes deduction 23,000 cars not necessary because of reduced lost car days.

(b) This number of cars is about 30 percent of new cars built with 70 percent constructed by car builders which is in accordance with current statistics.

(c) Figures used here are not quotations from builders and are only arbitrarily assumed values.

(d) Savings per 1,000 car miles (Fig. 18) × yearly mileage ÷ 1,000.

New and Improved Products of the Manufacturers



Heavy-Duty Welder

A heavy-duty direct current welding machine has been introduced by the A. O. Smith Corporation, Milwaukee, Wis. The machine is designed for all industrial uses, where d.c. welding is required.

Extensive field testing is said to have shown the new unit to be free of stack failure. This is accomplished by directing a high velocity downdraft of cool air over the rectifier stacks before passing this air through other parts of the machine. The blast is expelled at the base of the welder. This assures proper cooling and promotes internal machine cleanliness.

All of the principal construction features of the maker's heavy-duty a.c. welder are retained in the d.c. unit. Among these are the case-diameter fan and wind tunnel design to assure adequate, efficient air flow over all energized parts. The primary coils are raised and lowered on ball bearing jacks. The machine is available in 200-, 300- and 400-amp. ratings.

Mobilift 3,000-lb. Capacity Fork Lift Truck

Just announced is the "H" series of fork lift trucks, manufactured by the Mobilift Corporation, Portland 5, Ore.

The series consists of two models, the "H" with a capacity of 3,000 lb. and the 3,500-lb. "HW." The "H" series features Mobilift's Lev-R-Matic drive. A multiple-disc clutch of the same design used in other Mobilifts, except that it is heavier, transmits power without manual gear shifting. The new models, as well as the older ones, are powered by a 3-cylinder air-cooled gasoline engine, with a governed speed of 6 m.p.h.

The "H" model has an outside turning radius of $61\frac{3}{4}$ in. and the length less forks is 71 in., while width overall is 38 in. The "HW" outside turning radius is $63\frac{7}{8}$ in., length less forks is $73\frac{1}{4}$ in., and width overall 38 in. Speed of lift under load is 50 ft. per min. Both models are available



with standard masts of 63 in. and 83 in.



New Method for Making Dry Photocopies

An entirely new principle of instant and automatic developing and fixing is said to be used in the Auto-Stat, a photocopying machine being introduced by the American Photocopy Equipment Company, Chicago 14, which states that the new machine is fast—requiring but two simple steps—and so small it can operate on a part of an ordinary desk top. The maker advises that it requires no darkroom, no special running water set-up, no exhaust pipes, and it creates no ammonia fumes.

Held to be "low-cost," the electrically operated machine works on a transfer principle that employs two different types of paper, both coated with a special emulsion developed and patented by the makers of the Auto-Stat. The machine is designed to handle letter and legal sizes, as well as sizes up to 11 in. by 17 in.

In the two-step process, the original

is placed face-to-face with the No. 1 sensitized sheet and inserted in the contact printer—on the left in the illustration—for a 10 second exposure to light, then removed, and the original set aside. Then the exposed No. 1 sheet is placed face-to-face in contact with the No. 2 sensitized sheet and both sheets are inserted in the slots at the front of the Auto-Stat processing unit—on the right in the accompanying view. The two sheets travel through the processing unit automatically, and emerge from the delivery slot, adhered together, in approximately 8 seconds. The operator simply peels the two sheets apart, and has both a positive and a reverse reproduction of the original.

The manufacturer claims that an inexperienced operator can produce a minimum of 100 Auto-Stat copies per hour. There are no limitations as to types of paper, documents or originals that can be handled on the machine, and they may be printed on one or both sides.

SUPPLY TRADE

(Continued from page 17)

and manager of the R&IE Equipment Division. **W. M. McCauley** and **G. L. Carlisle** have been elected vice-president and commercial vice-president, respectively, of the parent company.

G. B. Davis, recently elected vice-president in charge of sales of the **Baker-Raulang Company**, as reported in *Railway Age* December 31, page 57, was born in Jackson, Mich., in 1909. He was graduated from Hillsdale College in 1931 and later taught physics and coached football in two



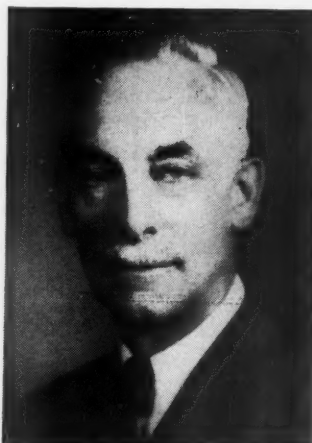
G. B. Davis

Michigan high schools. He joined the purchasing department of Baker-Raulang in 1935 and was transferred to the sales department in 1937. Mr. Davis was appointed assistant sales manager in 1945 and promoted to sales manager in 1948, which position he held until his election as vice-president.

Frank H. Nicholson, chief engineer of the **Union Switch & Signal Division of Westinghouse Air Brake Company**, with headquarters at Swissvale, Pa., has been appointed special assistant to the executive officer in charge of engineering. **H. G. Blosser**, assistant chief engineer, has been appointed chief engineer—electrical, and **Herbert L. Bone**, chief mechanical engineer, has been promoted to chief engineer—mechanical.

Mr. Nicholson was born at Burt, Iowa, and graduated from Cornell University in 1912. From 1909 to 1911 he worked part time with field forces of the Federal Signal Company. In 1912 he entered the employ of Union Switch & Signal in the engineering department, working in both the Chicago and Swissvale offices. He was employed by the Interborough Rapid Transit Company of New York City as circuit designer during 1915 and 1916, and in 1916 was employed by

the New York, New Haven & Hartford as signal inspector for the system, later becoming assistant engineer of signals. Mr. Nicholson again joined Union Switch in 1919, to take an active part in the development of coded track circuit signaling. He was appointed assistant chief engineer in 1945 and chief engineer in 1950. Mr. Blosser was born at Morgantown, W. Va. After service in the Naval Flying



F. H. Nicholson

Corps during World I, he completed a course in electrical engineering at Carnegie Institute of Technology. Mr. Blosser first joined Union Switch & Signal in June 1916, while attending college, and since 1919 his service has been continuous. He was connected with early development of the coded cab signal system and has also been active in development of coded



H. G. Blosser

wayside signal equipment and systems. He was appointed assistant chief engineer in 1950.

Mr. Bone was born at Boston, and graduated from Massachusetts Institute of Technology in 1917. Prior to his employment with Union Switch, he worked as engineer with Remington Arms, and was chief draftsman of the Eastern Manufacturing Company. Since 1927, when he came to Union Switch & Signal as a mechanical en-

gineer, he has been active in development of electro-pneumatic car retarders, mechanical facing-locks for spring switches, and numerous other items associated with mechanical as-



H. L. Bone

pects of railway signaling. Mr. Bone was appointed general mechanical engineer in 1930, and chief mechanical engineer on May 1, 1951.

OBITUARY

Henry Nott Ransom, vice-president of the **Waugh Equipment Company**, died on December 26, 1951, in St. Clare's Hospital, New York. Mr. Ransom was born in Gordonville, N. Y., on August 19, 1870, and received his higher education at the Albany Boys Academy. At various times in his career, Mr. Ransom was connected with the sales departments of the Consolidated Car Heating Company, the Christinson Air Brake Company, the General Electric Company and the Westinghouse Electric & Manufacturing Co., and was purchasing agent for the International Railway. He was with Waugh Equipment for more than 30 years.

FINANCIAL

New Securities

Division 4 of the I.C.C. has authorized:

CHESAPEAKE & OHIO.—To assume liability for \$8,850,000 of equipment trust certificates, to finance in part 38 diesel-electric locomotives (54 units), 200 hopper cars, and 100 flat cars. Estimated total cost of the equipment is \$11,192,365. (*Railway Age*, December 3, page 102). Division 4 approved sale of the certificates for \$9,3536 with interest at 3 3/8 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds to the road approximately 3.23 per cent.

The certificates, dated December 15, will mature in 30 semiannual installments of \$295,000 each, beginning June 15, 1952. They were reoffered to the public at prices yielding from 2.15 to 3.25 per cent, according to maturity.

MISSOURI PACIFIC.—To assume liability for \$6,525,000 of series QQ equipment trust certificates, to finance in part 51 diesel-electric locomotives costing an estimated \$8,229,516. (*Rail-*

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and an unexcelled location for Industry and Business:



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Land of Vast Resources and Industrial Opportunity

Also important, of course, on the Midwest's long list of resources, is the rich soil of its rolling prairies, as fertile as any on earth, constituting a source of assured agricultural prosperity as the foundation for Community Progress and Industrial Development.

The M. & St. L. Railway, proud to be a vital link in Midwest Transportation, offers efficient freight service, complete in detail, to manufacturers and distributors; and advantageous plant locations in thriving communities on its lines.

*Fast Dependable
Freight Service*



The Minneapolis & St. Louis Railway

Fast Freight Service via the Peoria Gateway



CLIMATE

Healthful and
Invigorating



WATER

Pure and Abundant



FUEL

Coal, Oil, Gas
Close at Hand



POWER

Unlimited Supply, Steam
and Hydro-electric



RAW MATERIALS

Well-nigh Limitless in
Variety and Quantity



MARKETS

Great Home Market and
Easy Access to Vast
Consuming Areas



POPULATION

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People on Farms
and in Towns



LABOR

High Percentage of
Efficient, Skilled Workers



TRANSPORTATION

Network of Railroads
Unsurpassed for
Excellence of Service
and Equipment

way Age, November 19, page 81.) Division 4's report approved sale of the certificates for \$9,2783 with interest at 3 3/8 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds to the road approximately 3.52 per cent. The certificates, dated December 15, will mature in 15 annual installments of \$435,000 each, beginning December 15, 1952. They were reoffered to the public at prices yielding from 2.15 to 3.25 per cent, according to maturity.

NEW YORK, CHICAGO & ST. LOUIS.—To assume liability for \$1,950,000 of equipment trust certificates, to finance in part 25 diesel-electric locomotives costing an estimated \$2,474,276. (Railway Age, December 3, page 102.) Division 4 approved sale of the certificates at 99.6639 with interest at 3 3/8 per cent—the bid of Halsey, Stuart & Co. and four associates—which will make the average annual cost of the proceeds to the road approximately 3.18 per cent.

The certificates, dated January 1, 1952, will mature in 30 semiannual installments of \$65,000 each, beginning July 1, 1952. They were reoffered to the public at prices yielding from 2.15 to 3.2 per cent, according to maturity.

TEXAS & PACIFIC.—To assume liability for \$2,900,000 of series N equipment trust certificates, to finance in part acquisition of 13 diesel-electric locomotives (16 units), and 250 70-ton gondola cars. Estimated total cost of the equipment is \$3,996,108. (Railway Age, December 10, page 72.) Division 4 approved sale of the certificates for 98.629 with interest at 2 3/4 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds to the road approximately 3.06 per cent. The certificates, dated January 1, 1952, will mature in 10 annual installments of \$290,000 each, beginning January 1, 1953. They were reoffered to the public at prices yielding from 2.35 to 3.125 per cent, according to maturity.

Application has been filed with the I. C. C. by:

ATLANTIC COAST LINE.—To issue and sell, without competitive bidding, \$22,388,000 of series B general mortgage bonds. Proceeds would be used to retire a like amount of first consolidated 4 per cent bonds, due July 1, 1952. The new series B bonds would bear interest "at the lowest rate at which such bonds may be sold at par." The road said present market conditions are "uncertain," but it believes it can obtain, by direct sale, an interest rate not to exceed 4 1/2 per cent. The issue could not be sold advantageously through competitive bidding, the A.C.L. said. Several life insurance companies have indicated they will purchase the bonds as investments, provided the I.C.C. will authorize such direct sale. The bonds would be dated June 30, 1952, and mature June 30, 1972.

SOUTHERN PACIFIC.—To assume liability for \$8,170,000 of series HH equipment trust certificates, to finance in part 38 diesel-electric locomotives and 740 freight cars. Estimated total cost of the equipment, listed below, is \$12,262,408:

Description and Builder	Estimated Unit Cost
2 6,750-hp passenger locomotives, each consisting of two 2,250-hp "A" units and one 2,250-hp "B" unit (American Locomotive Company)	\$700,497
1 2,250-hp passenger locomotive "A" unit (Alco)	239,719
5 1,600-hp switching locomotives (Baldwin-Lima-Hamilton)	174,385
2 1,600-hp switching locomotives (B.L.H.)	182,948
10 1,600-hp freight locomotives (B.L.H.)	189,780
10 1,600-hp freight locomotives (B.L.H.)	187,887
4 1,600-hp freight locomotives (B.L.H.)	191,329
2 1,600-hp freight locomotives (B.L.H.)	191,769
2 1,000-hp switching locomotives (Alco)	101,440
615 50-ton box cars (Southern Pacific Equipment Company)	5,561
125 50-ton all steel gondola cars (S.P. Equipment Co.)	5,604

The certificates, dated January 1, 1952, would mature in ten annual installments of \$817,000 each, beginning January 1, 1953. They would be sold by competitive bids, with the interest rate to be set by such bids.

UNION (PITTSBURGH).—To issue three promissory notes to the United States Steel Corporation in the total amount of \$3,975,000. Proceeds from the notes would be used to finance in part acquisition of 10 diesel-electric locomotives and 500 70-ton gondola cars. Estimated total cost of the new equipment is \$4,061,910. The locomotives, costing approximately \$106,191 each, would be purchased from Electro-Motive Division of General Motors Corporation; and the gondola cars, costing approximately \$5,680 each, would be purchased from the Greenville Steel Car Company. The first of the three promissory notes would be in the amount of \$2,350,000, and mature in 20 semiannual installments of \$117,500 each. It would bear interest at 3 3/4

per cent. Other notes, to be issued as the new equipment is delivered, would be in the amounts of \$700,000 and \$925,000, respectively.

Dividends Declared

CAROLINA, CLINCHFIELD & OHIO.—\$1.25, quarterly, payable January 21 to holders of record January 10.

CHICAGO, BURLINGTON & QUINCY.—\$3, semiannual, paid December 28, 1951, to holders of record December 18.

CINCINNATI, NEW ORLEANS, TEXAS & PACIFIC.—5% preferred, \$1.25, quarterly, payable March 3, 1952, June 2, September 9, and December 1, to holders of record February 15, 1952, May 15, August 15, and November 14.

ILLINOIS TERMINAL.—20¢, quarterly, payable February 1 to holders of record January 10.

LAKE SUPERIOR & ISHPEMING.—35¢, quarterly, payable January 15, 1952, to holders of record January 2; extra, 65¢, paid December 20, 1951, to holders of record December 1.

NORFOLK & WESTERN.—4% adjustable preferred, 25¢, quarterly, payable February 8, 1952, to holders of record January 16.

NORTH CENTRAL.—\$2, semiannual, payable January 15, 1952, to holders of record December 31, 1951.

PITTSBURGH, CINCINNATI, CHICAGO & ST. LOUIS.—\$2.50, semiannual, payable January 21 to holders of record January 10.

READING.—50¢, quarterly, payable February 14 to holders of record January 17.

STONY BROOK.—\$3, semiannual, payable January 5 to holders of record December 28, 1951.

Security Price Averages

	Dec. 26	Prev. Week	Last Year
Average Price of 20 representative railway stocks..	53.33	54.15	53.34
Average price of 20 representative railway bonds..	89.76	90.02	97.87
	Jan. 2	Prev. Week	Last Year
Average price of 20 representative railway stocks..	54.39	53.33	56.07
Average price of 20 representative railway bonds..	90.92	89.76	98.69

RAILWAY OFFICERS

EXECUTIVE

McGanney Heads Three S.P. Subsidiaries

D. J. McGanney, whose appointment as vice-president of the Southern Pacific was announced in *Railway Age* December 31, has also been appointed president of the Northwestern Pacific, the Petaluma & Santa Rosa and the San Diego & Arizona Eastern—all subsidiaries of the S.P. In these capacities he succeeds D. J. Russell, who became president of the S.P. on the retirement of A.T. Mercier on December 31 (*Railway Age*, December 31, page 46).

Operations of the N.W.P. and the P.&S.R. will continue under the direct supervision of G. L. Morrison, vice-president and general manager at San Rafael, Cal., while operations of the S.D.&A.E. will remain under B. W. Mitchell, vice-president and general manager at San Diego.

FINANCIAL, LEGAL & ACCOUNTING

J. L. Hobold, cashier in the treasury department of the St. Louis SOUTHWESTERN, has been appointed assistant secretary, at St. Louis.

H. C. Johnson, chief disbursement accountant of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, has been appointed auditor of expenditures, succeeding G. E. Engstrom, retired. Mr. Johnson is succeeded by R. H. Padgett, assistant auditor of passenger accounts. A. B. Montgomery, chief clerk to auditor of expenditures, has been appointed to succeed Mr. Padgett. E. H. Sowle has been appointed auditor of machine accounting, and his former position, supervisor of payroll taxes, has been abolished. All will be headquartered in Chicago.

Russell T. Walker, assistant to secretary of the NEW YORK CENTRAL, has been appointed an assistant secretary, with headquarters as before at New York.

William L. Parsons, general attorney of the NEW YORK CENTRAL SYSTEM at Boston, Mass., retired on December 31, under the pension system, after 43 years of service. Louis Kofsky, assistant general attorney, will be in charge of the law office at Boston, effective January 1.

James A. Wilcox, assistant general attorney of the UNION PACIFIC, has been appointed general attorney at Omaha.

J. E. Chappell has been appointed freight claim agent, eastern and western lines of the ATCHISON, TOPEKA & SANTA FE, at Topeka, Kan., succeeding the late E. O. Schoonover. J. G. Goodrich succeeds Mr. Chappell as freight claim agent, PANHANDLE & SANTA FE, at Amarillo, Tex. R. S. Baker has been appointed assistant freight claim agent, Coast lines, at San Francisco, succeeding Mr. Goodrich.

C. H. Flemer, assistant auditor of equipment service accounts of the SOUTHERN PACIFIC, has been appointed auditor of equipment service accounts, succeeding H. R. Groth, retired after 47 years of service. Mr. Flemer's headquarters will be, as before, at San Francisco.

'OPERATING

Donald A. Logan, assistant superintendent of the New York division of the ERIE at Jersey City, N. J., has been appointed superintendent of the Wyoming and Jefferson divisions at Dunmore, Pa., succeeding Robert H. Boykin, who retired on December 31 under the pension rules of the company, after more than 46 years of service. William M. Wiarda, trainmaster of the Buffalo and Rochester division at Buffalo, N. Y., has been appointed chief trainmaster of the Delaware, Susquehanna and Tioga divisions at Hornell, N. Y., succeeding James D. McFadden, who replaces Mr. Logan. Walton E. Smith, inspector of operation, has been appointed

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modern, fast, merchandise freights serve
L. C. L. customers of the Illinois Central.



ILLINOIS CENTRAL RAILROAD

Main Line of Mid-America

trainmaster of the New York division and side lines, at Jersey City, to succeed **Ward F. Wilson**, who replaces Mr. Wiarda.

Mr. Boykin was born at Petersburg, Va., and studied civil engineering at Columbia University. He joined the Erie as an axeman for an engineering gang at Corry, Pa., in 1905 and advanced through various engineering and construction jobs on the Meadville, Allegany, New York, Susquehanna and Marion divisions until 1914. He was promoted to division engineer on the Kent division in the latter year and later transferred to the Delaware and Wyoming division, subsequently becoming superintendent of terminals at New York, superintendent of the Mahoning division at Youngstown and assistant general manager of the Eastern district at Jersey City. Mr. Boykin was appointed superintendent of the Wyoming and Jefferson divisions at Dunmore in 1938.

TRAFFIC

Stuart F. Evans has been appointed general western freight agent of the ELGIN, JOLIET & EASTERN at Seattle, Wash.

Elmer E. Kester, passenger traffic manager of the ILLINOIS TERMINAL, retired January 1 after 53 years of railroad service.

Emil Tripp has been appointed general agent of the AKRON, CANTON & YOUNGSTOWN at New York.

G. D. Nugent has been appointed general passenger agent of the GRAND TRUNK WESTERN—CANADIAN NATIONAL, with headquarters at Chicago. He succeeds **John L. Bickley**, who has been promoted to assistant passenger



G. D. Nugent

traffic manager at New York (*Railway Age*, December 31, page 60).

R. J. Eberhardt has been appointed to the newly created position of general agent at Chicago. **J. H. Bell** has been appointed general agent at Kansas City, Mo., to succeed **F. S. Beno-**

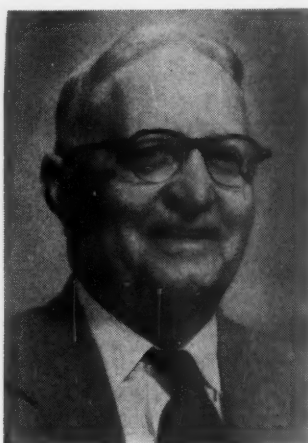
liel, who is being promoted to general agent at Philadelphia, succeeding **F. K. Moore**, transferred to Boston.

Mr. Nugent, who was formerly general agent at Boston, began his service as a rate clerk in Toronto in 1916, becoming chief rate clerk two years later. In 1919 he was transferred to Montreal, and appointed chief clerk to general passenger traffic manager in 1923. In 1930, Mr. Nugent was named assistant to assistant general passenger traffic manager at Montreal. Four years later he went to St. Paul, as general agent, and since January 1951, has been general agent of the system and general passenger agent of the Central Vermont at Boston.

Bruce A. Comstock, assistant general passenger agent of the CHICAGO, BURLINGTON & QUINCY, at Denver, has been appointed general agent, passenger department. He succeeds **Fred W. Johnson**, who has retired as general passenger agent after 48 years of service. **Herbert C. Wallace**, district passenger agent at Dallas, Tex., succeeds Mr. Comstock. Mr. Johnson began his railroad career as a stenographer in 1903 in the Burlington's Omaha general passenger office. In 1911 he was transferred to the Denver city ticket office, where he held numerous positions until he was appointed the road's senior passenger representative there in 1932.

MECHANICAL

W. B. Berry, chief mechanical officer of the ST. LOUIS-SAN FRANCISCO, at Springfield, Mo., has retired and is succeeded by **W. H. Gimson**, superintendent of motive power at Springfield. **E. F. Tuck**, assistant superintendent of motive power at that point, succeeds Mr. Gimson. **W. G. Hall**, master mechanic at Kansas City, has retired and is succeeded by **W. C. Reddick**, assistant master mechanic.



W. B. Berry

Mr. Berry served in the Spanish-American War before starting his railroad career in 1899 as a machinist-

apprentice with the Texas & Pacific. Subsequently he held machinist posts with a number of railroads, and in 1907 joined the Frisco as machinist at Sherman, Tex. After serving as roundhouse foreman at Monett, Mo., and Ft. Worth, Tex., Mr. Berry became roundhouse and general foreman at Springfield in 1919 and in 1922 went to Kansas City as master mechanic. In 1935 he was named assistant superintendent of motive power and in 1945



W. H. Gimson

became superintendent of motive power. He has been chief mechanical officer since 1948.

Mr. Gimson joined the Frisco in 1904 as a machinist helper at Memphis. He advanced to the positions of machinist, roundhouse foreman, division foreman, and general foreman, and in 1929 was promoted to shop superintendent at Springfield. He was appointed general foreman of the north shops at Springfield in 1931, and went to Tulsa in 1941 as master mechanic. Mr. Gimson returned to



E. F. Tuck

Springfield in 1945 as assistant superintendent motive power, and was promoted to his present position in 1948.

Mr. Tuck entered railway service in 1915 as a machinist apprentice on the Santa Fe at Cleburne, Tex. He came to the Frisco in 1922 as round-

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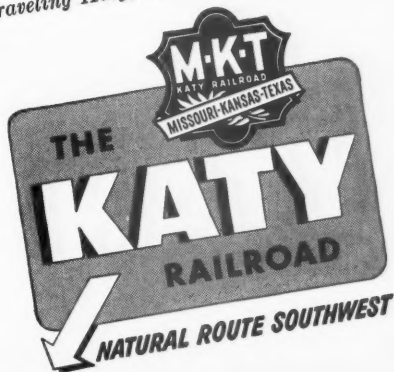
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39

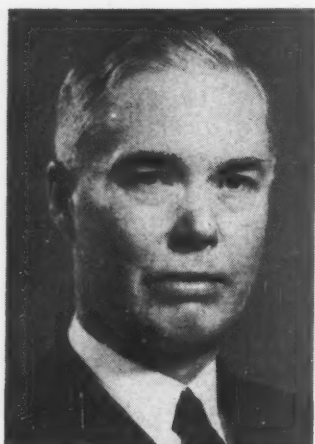
house foreman at Ft. Worth and in 1929 went to Kansas City in the same capacity. Subsequently, he was general foreman at Memphis and at Springfield and in 1947 was named master mechanic at Springfield. He was appointed assistant superintendent of motive power earlier this year.

ENGINEERING AND SIGNALING

R. M. Brown has been appointed engineer, Utah division, of the UNION PACIFIC, at Salt Lake City. He had been resident engineer in charge of construction at Hinkle, Ore.

Harry F. Brown, electrical engineer of the NEW YORK, NEW HAVEN & HARTFORD at New Haven, Conn., has voluntarily retired, after 42 years of service, all connected with electrification and electric operation of that road. Mr. Brown has been active since 1935 in the affairs of the Electrical Section, Engineering Division, of the Association of American Railroads, and has been a member of the Committee of Direction of that section since that date. He has also been active in the affairs of the American Institute of Electrical Engineers and is widely known in this country and in Europe for his contributions to the technical press in connection with railway electrification matters. He will be engaged after January 1 as consulting engineer with the Westinghouse Electrical International Company in connection with various aspects of railway electrification, power plants and allied problems abroad.

W. G. Dyer, district engineer of the CANADIAN PACIFIC, at Vancouver, B. C., has been appointed engineer maintenance of way, Prairie and Pacific regions (*Railway Age*, December 17, page 82). He succeeds **T. E. Price**, retired.



W. G. Dyer

Mr. Dyer entered railroad service in 1923 as a rodman with the C. P. at Regina, Sask. He served as building inspector and transitman, and in 1936

was appointed roadmaster at Prince Albert, Sask. He became division engineer at Moose Jaw, Sask., in 1941, transferring in 1943 to Penticton, B. C. He was appointed engineer of track in 1946, at Montreal, and in 1948 was named district engineer at Vancouver.

Mr. Price has spent his entire career with the C. P., starting in 1909 as transitman at Vancouver. He served successively as assistant masonry inspector, assistant engineer hydroelec-



T. E. Price

tric power surveys, and division engineer, leaving in 1917 to join the Canadian Railway Troops, overseas. He returned in 1919 as division engineer at Vancouver, and remained there until 1941, when he was appointed district engineer of the Manitoba district. He became engineer maintenance of way in 1944.

SPECIAL

John W. Vanderlaag, manager, instruction and inspection bureau of the PULLMAN COMPANY, has been appointed assistant manager, car service employees. His headquarters are in Chicago.

OBITUARY

H. E. Wagner, master car builder of the ALTON & SOUTHERN, died November 6, in St. Louis.

Lansing W. Althof, district engineer for the UNION PACIFIC, Northwestern district, died December 11 at his home in Portland, Ore.

L. C. Spencer, whose death was noted in *Railway Age* December 17, started his career with the GULF, MOBILE & OHIO in 1911 as telegraph operator for the Mobile & Ohio (now G. M. & O.). He served in this capacity at a number of points until 1928, when he was named yardmaster and general foreman at Corinth, Miss. He was appointed trainmaster at Murphysboro, Ill., in 1940, and was subsequently transferred in this position to the J. & O. districts, Memphis &

Birmingham districts, and the Okolona, Birmingham & Memphis districts. In 1946 he was appointed superintendent of the Southern division, and held this position until the time of his death.

ABANDONMENTS

Texas & Pacific.—Division 4 of the I.C.C. has turned down this road's application for authority to abandon its branch line between McWilliams, La., and Indian Village, approximately 7 miles. The division also denied authority to abandon operation over an additional two miles of the branch, from Plaquemine to McWilliams. T.&P. proposed to retain this 2-mile segment as a spur track. Local public officials joined shippers in opposing the abandonment proposal. Division 4 noted the branch "has been operated profitably for many years," and disagreed with T.&P. estimates of what it will cost to rehabilitate the line for future service.

Application has been filed with the I.C.C. by:

ILLINOIS TERMINAL.—To abandon its 12.7-mile line between Granite City, Ill., and Wood River. Traffic has declined so that operation of the line results in substantial losses, the company said. Only passenger trains operate over the line, and the terminal company said it would seek authority to substitute bus service over a parallel highway.

LIGONIER VALLEY.—To abandon its entire line, approximately 16 miles, from Latrobe, Pa., to Fort Palmer. About 3.5 miles of the line at Latrobe would be sold to the Pennsylvania. In seeking authority to abandon the line, the road said it has operated at a loss for each of the past five years except 1947.

SOUTHERN PACIFIC.—To abandon a branch from Riverdale, Cal., to Armona, 15.4 miles.

Division 4 of the I.C.C. has authorized:

CENTRAL OF GEORGIA.—To abandon its branch line between Margaret Junction, Ala., and the Margaret Mines, consisting of approximately 11.5 miles of main track and 8 miles of side track. Mining operations in the area have ceased, Division 4 said.

GULF, MOBILE & OHIO.—To abandon its East Hardin branch, 20.9 miles, from Carrollton, Ill., to East Hardin. Division 4 said it was certain the line would not earn enough in future to pay the cost of rendering service.

HELENA & NORTHWESTERN.—To abandon its entire line, approximately 53.5 miles, from Helena, Ark., to Cotton Plant. (This authorization was incorrectly reported as an application in *Railway Age*, November 19, page 75.)

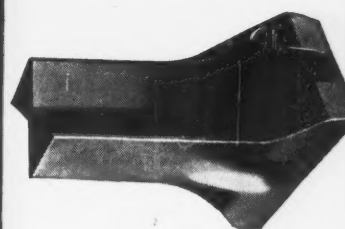
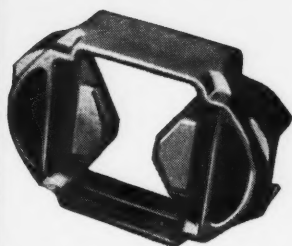
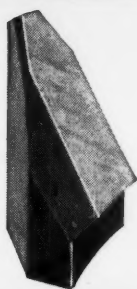
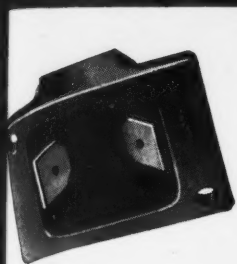
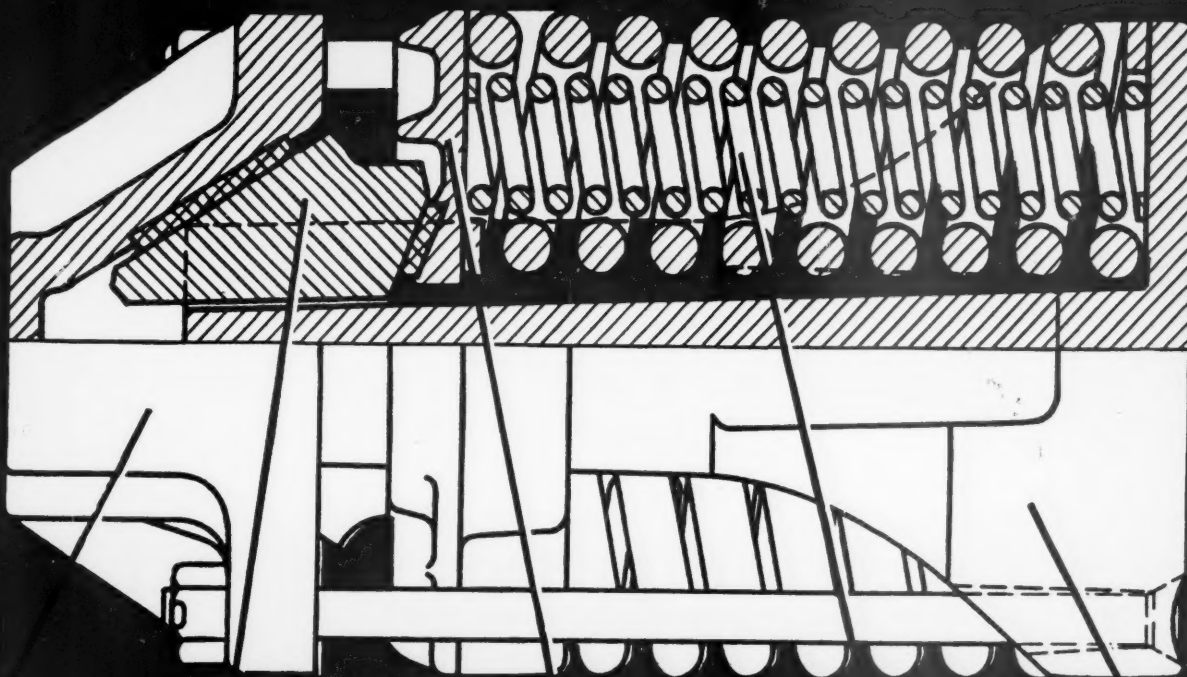
ILLINOIS TERMINAL.—To abandon its line between DeLong, Ill., and Danville, 15.4 miles, on which Division 4 said operations have been conducted at a large loss for the past two years.

PENNSYLVANIA.—To abandon operating rights over 9.2 miles of branch line from Lebanon, Ohio, to Lytle. No traffic has moved over the line since 1930, but it has been retained as a possible alternative route. The line, owned by the Pennsylvania, Ohio & Detroit, will be dismantled.

SOUTHERN.—To abandon 7.9 miles of line from Littleton, Ala., to Porter. Service over the line was discontinued May 31, 1950.

VERDE TUNNEL & SMELTER RAILROAD.—To abandon its entire rail line, extending from a connection with the Atchison, Topeka & Santa Fe at Clarkdale, Ariz., to Jerome, approximately 11 miles. The road has served mines in the Jerome area, but these have been depleted and will be closed early in 1952.

VIRGINIAN.—To abandon operation under trackage rights over approximately 31 miles of railroad owned by the Toledo & Ohio Central (New York Central), from Charleston, W. Va., to a point known as DB Tower. The Virginian has suffered substantial losses from the operation, which consists only of through passenger trains.



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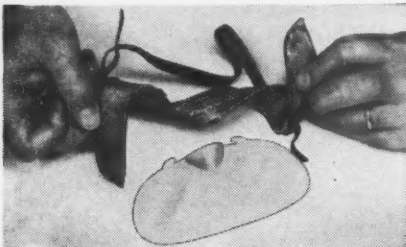
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Current Publications

CHART

Why Living Improves In America. 17 in. by 22 in. Six colors. Published by the Wilkie Foundation, Des Plaines, Ill. Single copies, 25 cents; quantities available at cost.

A good lesson in elementary private enterprise economics suitable for bulletin boards of companies desiring to place economic studies alongside safety material and company news items. The chart depicts the foundation's formula: "Natural Resources plus Human Energy Multiplied by Tools Produces Man's Material Welfare." It shows the fall of working hours from the 80-hr. week of 1600 to the 40-hr. week of 1950 and the simultaneous rise of real personal income to a point undreamed of 350 years ago.

MOTION PICTURES

Destination, America. 16-mm., color, sound. 25 min. Showings to shippers, schools, social and civic organizations, etc., may be arranged through Department of Public Relations, Western Pacific, 526 Mission st., San Francisco, Cal.

An exceptional portrayal of the drama of modern railroading as witnessed by a young man who seeks to follow his father's footsteps in the Western Pacific's freight traffic department. Among the many scenes of current W. P. operations is a spectacular Feather River canyon sequence filmed from a helicopter. Throughout the film the accent is on freight service and how it has been improved by modern, specialized equipment.

Golden Journey. 16-mm., color, sound. 31 min. Available for showing to civic groups, clubs, schools, etc., without charge, through the Public Relations department, Chicago, Rock Island & Pacific, 139 W. Van Buren st., Chicago.

A Rock Island passenger representative calls at the home of Mr. & Mrs. Prospective Traveler and arranges a holiday tour of the scenic Southwest. Many subsequent scenes take place aboard the Rock Island-Southern Pacific streamliner "Golden State" as the vacationing family visits El Paso, Juarez, Tucson, Phoenix, Palm Springs, etc. Though primarily a travel-promotion film, "Golden Journey" is unusual in the extent to which it details life aboard a streamline train.

A Picture Is Made. 16-mm., color, sound. 22 min. Available for showing to clubs, schools and similar groups, without charge, through the Film Bureau, Atchison, Topeka & Santa Fe, 80 E. Jackson blvd., Chicago 4.

An excellent "dessert" piece for those hard-to-fill safety rally film programs. Filmed literally by "the camera behind the camera" during production of the recent Columbia release, "Santa Fe," "A Picture Is Made" is largely an exposé of the many tricks used by Hollywood producers to produce night scenes, storms and other special effects. It has enough rail-

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DESCRIBES LOCOMOTIVES BY MAKE

Separate chapters are devoted to accounts of diesel engines made by The American Locomotive Company, Baldwin Locomotive Company, Electro-Motive Diesel, Fairbanks, Morse & Company, and Lima-Hamilton Corporation. Each engine, its parts, and its non-electrical auxiliaries are described and illustrated in full detail.

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The electrical and control equipment of the major builders: Alco-G.E., Electro-Motive Division, Lima-Westinghouse, Baldwin-Westinghouse, and Fairbanks, Morse-Westinghouse is completely analyzed in individual chapters.

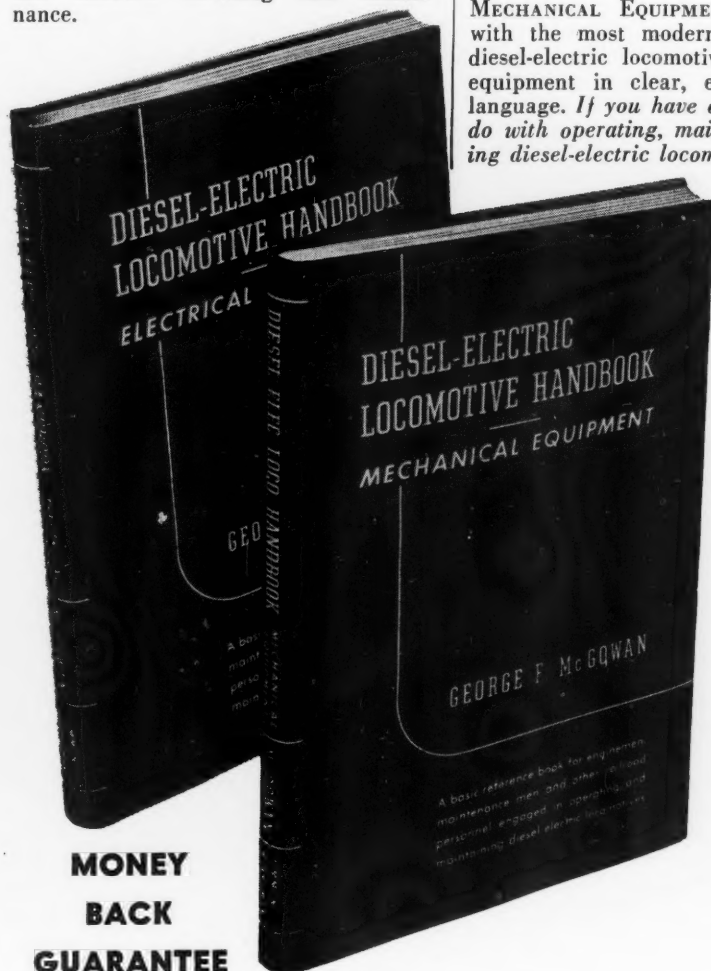
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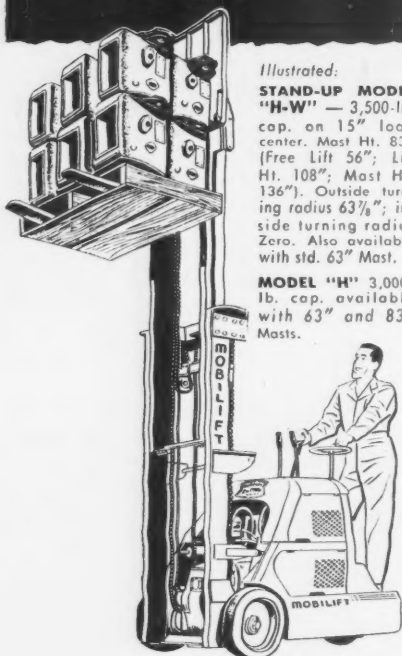
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MAP

Coal Areas in the United States. 9 in. by 16 in. Three colors. Available through Educational division, Bituminous Coal Institute, Southern bldg., Washington, D. C. Free.

The nation's sources (and future sources) of bituminous, anthracite, lignite and sub-bituminous coal are all depicted on this single outline map of the U. S. Comment on the extent of our reserves, coal production by states, etc., is printed on the reverse side. Suitable for bulletin boards, etc., where employee educational programs might be in effect.

TRADE PUBLICATION

The Bituminous Coal Story. 16 pages, illustrations. By Dr. M. Edmund Speare, educational director, Bituminous Coal Institute. Available through the institute's Public Relations department, Southern bldg., Washington, D. C. Free.

As its title implies, this pamphlet sets forth the history of coal, its formation, its discovery by man, its uses—yesterday and today, how it is mined, and what future benefits it may bring to our civilization. It is written for the high school level and above, and might prove useful in employee education programs, particularly on roads where coal is an important source of traffic.

PAMPHLETS

Proceedings (of the) Industrial Traffic Conference, May 17-18, 1951, at the University of Tennessee. Edited by Prof. William Way, Jr. 123 pages. Published by the Division of University Extension, University of Tennessee, Knoxville, Tenn. Copies available upon request to Professor Way.

The primary purpose of this conference was to promote the profession of industrial traffic management in the South. It included panel discussions on the relationship and contrast between motor carrier and rail rates in southern territory, and coordination of domestic transportation for peak utilization, as well as papers on mobilization of transportation facilities for defense production; gearing your traffic to transportation conditions ahead; what makes a traffic manager; the need for traffic education; the effectiveness of association traffic management; the necessity of traffic management in industry; the executive's dependence upon his traffic manager; freight loss and damage; and a challenge to traffic management. A report on the conference appeared in *Railway Age* June 4, page 70.

A Survey on Hydraulic Transportation of Coal, by R. W. Dougherty. 22 pages, tables. U. S. Department of Interior, Bureau of Mines, Washington 25, D. C. Free.

This survey is concerned mainly with problems presented by actual pipe line

transportation of coal with water. It covers related literature, industry opinions, economic studies, cost estimate, and a bibliography of published literature and abstracts.

Scrap for Steel Mills and Foundries for Defense. 15 pages. National Production Authority, U. S. Department of Commerce, Washington 25, D. C. Free.

Aimed to help increase current dangerously low iron and steel scrap inventories, this booklet emphasizes that record breaking steel production and large scale expansion of production capacity have reduced scrap inventories to a new all-time low, with some plants having only a few days supply on hand. Industries are advised to go after dormant scrap, appoint a salvage committee, and put scrap collection on a "housekeeping" basis.

Smarter, Not Harder; Yakety, Yakety, Yak; Put and Take; Don't Look Now But Your Freedom is Showing. 16 pages each. H. H. Horton Company, 565 Fifth Ave., New York 17. Sample copies of any of the four booklets available on request.

How can business executives prove to their employees that workers' interests and management's interests are identical? To help answer this problem, the H. H. Horton Company, sales and employee training consultants, has issued this series of four booklets for management to distribute to employees. "Smarter, Not Harder," proves to the worker the advantages of increased productivity; "Yakety, Yakety, Yak" deals with individual civic responsibility; "Put and Take" covers the profit system and inflation; and "Don't Look Now But Your Freedom is Showing" gives the benefits of the American way of life. According to Howard Horton, these are four vital areas where improved employee attitudes are most desirable. "From a management point of view," says Mr. Horton, "the booklets are designed to win friends and secure better cooperation. Recent analyses of employee attitudes all point to the same conclusion; the weakest link in worker-management relations is one of communications and understanding. To strengthen this vital link, we must provide specific answers to workers' questions: 'How do I benefit by increased production?' . . . 'What's in it for me?' . . . 'Doesn't the boss get all the gravy?' . . . 'Fighting inflation isn't my job!'"

Comparative Statement of Railway Operating Statistics, Individual Class I Steam Railways in the United States for the years ended December 31, 1950 and 1949. 63 pages. Prepared by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Available from Government Printing Office, Washington 25, D. C. 65 cents.

Contains, for each Class I railway, statistics on revenues and expenses, income and balance sheet items, traffic, freight commodity statistics, freight train performance, passenger train performance, yard service performance, fuel and power, motive power and car equipment, and wages.